History of Wildlife Management in the Intermountain Region

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FOREWORD

Consider our vast wealth of wildlife. That we could ever be without it seems unthinkable. Yet when you journey into the past through the pages of this publication, you will realize it is no accident that today we enjoy a large variety of wildlife.

Our world is better because of the people who learned through experience about the delicate balance existing between wildlife and habitat.

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INTRODUCTION

On the 75th anniversary of the Forest Service, we find in the history of wildlife management much that we need to know about all natural resources. The wildlife management story in the Intermountain Region is linked to the many people who have worked through the years to balance resource use and make National Forests hospitable homes for wild creatures.

You may wonder why a history of wildlife management is used to commemorate the 75th anniversary of the Forest Service. Perhaps the best answer is that wildlife is so closely related to all National Forest resources that it can be viewed as the central theme in a great pageant. All the scenes help us understand the past and relate it to the present.

The stage for our history of wildlife management is the Intermountain Region of the Forest Service. Big beyond imagination, it contains more than 31 million acres of National Forests in Utah, Nevada, southern Idaho, western Wyoming, and portions of Colorado and California.

More than 700 wildlife species occupy habitats ranging from desert to alpine environments. Their value — while adding immeasurably to our quality of life — also has dollar signs attached. For example, an economic survey by Dr. Chris Hansen shows the value of wildlife and fisheries resources in the Intermountain Region of the Forest Service for the year 1979 amounted to about $135 million.

Throughout the 75-year history of the Forest Service, quantity and value of wildlife have varied. Shifting populations and species have been linked to dramatic changes in landscape and vegetative patterns. Forest Service annual reports for 1918, 1940, 1960, and 1979 show the following estimates:

CHANGES IN ESTIMATED WILDLIFE POPULATIONS ON NATIONAL FORESTS OF THE INTERMOUNTAIN REGION

	YEAR			
SPECIES	**1918**	**1940**	**1960**	**1979**
ANTELOPE	364	6,700	5,600	12,372
MULE DEER	51,400	250,000	604,000	406,393
ELK	21,030	41,000	62,000	65,108
MOOSE	1,101	2,500	4,100	8,719
MOUNTAIN SHEEP	2,232	3,000	3,300	3,551
MOUNTAIN GOATS	1,575	2,100	2,400	2,412

For three species — antelope, deer, and moose — the harvest for 1979 exceeds the 1918 population estimate. In fact, the 1979 antelope harvest was three times the 1918 population. Following is a report of the 1979 big game harvest on National Forests in the Intermountain Region:

ANTELOPE	1,074
BIGHORN SHEEP	98
ELK	11,372
MOOSE	1,296
MOUNTAIN GOAT	72
MULE DEER	83,059
WHITE-TAIL DEER	54

This impressive record has been possible because of cooperative efforts between National Forests and respective State fish and game departments.

An excerpt from the 12th Biennial Report of the Utah Fish and Game Commission of 1918 verifies the long record of cooperative work:

COURTESIES

We take this opportunity to express to the U.S. Forestry Department our sincere appreciation of the assistance which they have rendered us under the reciprocal agreement entered into by District Forester L.F. Kneipp, and this department, in May 1917. Their Forest Rangers throughout the Forest reserves, where much of our wild game abounds, have manifested a deep interest in the work of our Department, and have helped us materially in checking violations of the fish and game laws. During the year 1918, these Rangers transferred fish fry from various railway points and planted nearly all of the streams in the Forest reserves, thus saving our Department several hundreds of dollars. They also made and compiled the following report of game conditions in Utah, much of which information could not have been obtained from any other source.

DEER (including Kaibab)	*51,400*
ELK	*21,030*
MOUNTAIN GOAT	*1,575*
MOOSE	*1,101*
ANTELOPE	*364*
MOUNTAIN SHEEP	*2,232*

TRAPPER ERA

Based on reports of early white settlers, patterns of wildlife populations have shifted, varying considerably from one area to another. The changes suggest many successes in game management — and some failures.

During the mid-1830's, for example, trapper Osborne Russell reported many bighorn sheep and elk inhabiting the Wasatch Mountains east of the Great Salt Lake. Today, only a few bighorn sheep remain — remnants of a transplant in the 1970's. But elk numbers are increasing.

Russell also wrote about thousands of buffalo in the southern part of Star Valley, Wyoming. All that remains

today is a handful of captive buffalo. The decline in populations of grizzly bear, wolf, and anadromous fish are well documented.

A milestone in the evolution of wildlife management was reached in 1891 when President Benjamin Harrison set aside the first Forest Reserve. Named the Yellowstone Park Timberland Reserve, it included 1,239,040 acres located east and south of Yellowstone Park. Today that area is within the Bridger-Teton National Forest in the Intermountain Region and the Shoshone National Forest in the Rocky Mountain Region.

Few early-day Rangers were college educated. Most were former fur trappers, miners, cowboys, or woodsmen. One of the first Rangers on the Yellowstone Timberland Reserve was Frank Hammitt, who had been chief of cowboys in Buffalo Bill Cody's Wild West Show for several years. He was described as "a large man, attractive in appearance, well educated, having at one time studied for the priesthood, and could speak eight languages fluently." It was said that Hammitt had no knowledge of technical forestry, but was "a practical man of the mountains. . . a rough and ready individual, typical of a majority of the Forest Rangers. . . ."

Although wildlife management still attracts many individuals of similar nature, their training now contrasts with that of early-day Rangers. Wildlife and forestry curriculums and professions — in their infancy in 1891 when the Forest Reserves were established — have become scientific specialties. Wildlife managers today usually have a master's degree and many have doctorates in biology, fisheries, or ecology, as well as wildlife management.

Through the Forest Service's first 40 years, Forest officers not only managed the resources and fought fires, but also were commissioned as State game wardens with responsibility for issuing licenses and enforcing laws. They stocked fish; trapped, weighed, and measured deer; transplanted beaver and other game species; and made arrests.

Today wildlife management is a cooperative program with States managing resident wildlife species and the Forest Service managing the habitat for these species.

THE EARLY YEARS

The 1930 Wildlife Report shows that 34,650,571 fish were planted in the lakes and streams of the Intermountain Region. Game refuges totaled 5 million acres. Forest officers issued 1,030 licenses for hunting and fishing. They examined 10,113 licenses and handled 61 fish and game law enforcement cases.

In 1937, Forest officers planted 9,696,000 fish, and State fish and game personnel planted an additional 6,023,000. On the Targhee National Forest, a fish hatchery was constructed. When completed, it was turned over to the Fish and Wildlife Service. In 1946, there were 176 Forest officials in the Region commissioned as deputy state game wardens.

Any history of the Intermountain Region would be incomplete without a discussion of the "Kaibab." For 30 years, the North Kaibab National Forest in Arizona was part of this Region. During that time, dramatic changes in the area were well documented and now serve as a reference source for wildlife management students.

The story of the Kaibab — with its high and low deer populations, fawn farming, government hunting, livestock competition, antlerless deer hunts, trapping and transplanting, predator-prey relationships, scientific habitat management, interagency work and court records — is considered a landmark case study. Court action involving the Kaibab deer herd reached the Supreme Court, but out of this chaos emerged a scientific approach to habitat management!

The Kaibab was a training ground for many professionals during those early years. Today the area is managed cooperatively, with an annual fee assessed for wildlife work.

Following the Kaibab experience, intensive studies were conducted on the Dixie National Forest and Cassia Mountain. Eventually all National Forests became involved with the States in cooperative habitat analysis of big-game ranges.

For many years, wildlife management was organized as part of the range resource management group in each western Forest Service Region. One trained individual was assigned to this group to handle all wildlife management responsibilities. Beginning in the late thirties, a few wildlife biologists were assigned to assist with studies on selected National Forests.

THE MODERN ERA

In 1958, wildlife was recognized on a par with other major resources when Dr. D.I. Rasmussen was appointed Assistant Regional Forester in charge of wildlife activities. The Intermountain and California Regions were the first to recognize this organizational responsibility. Since that time, wildlife and its habitat have continued to be primary resources of the Intermountain Region. The wildlife and fisheries resources of the area represent tremendous national assets and are enjoyed by many thousands of people.

Wildlife biologists who have worked in the Intermountain Region through the years are largely responsible for the information contained in this document. We would like to particularly acknowledge the contributions of three biologists who lost their lives while performing official duties for the Forest Service:

Orange A. Olsen, Director of Wildlife Management, was killed in an airplane crash in 1945 while counting elk on the Bridger National Forest in Wyoming.

Gary Richardson, biologist, was killed in a plane crash on the Caribou National Forest on May 29, 1974. He was with a representative of the Idaho Department of Fish and Game and two other people who were also killed. They were surveying elk calving ranges in southeast Idaho.

Dean Doell, biologist, died of a heart attack on June 24, 1976, while working on a proposed timber sale on the Boise National Forest, Idaho.

Most of the following historical record was prepared by Jim Zumbo. Review assistance was provided by D.M. Gaufin, Floyd Noel, Jess Low, Everett Doman, Don Duff, Don Hooper, Phil Janik, and Paul Shields.

We acknowledge the valuable leadership provided by past Directors of Wildlife in the Intermountain Region. They are listed below.

R.H. Rutledge	1930-1931
Orange Olsen	1931-1945
Dr. D. Irving Rasmussen	1946-1963
D.M. Gaufin	1964-1977

Summarizing the history of wildlife management, D.M. Gaufin said: "Action was needed to preserve and restore the diminishing wildlife resources. It came first in the form of restrictions on hunting by the States; predator control; law enforcement; subsequently, by regulated hunting and wildlife management; then, more recently, habitat management. Today, many of the wildlife species that appeared threatened at the turn of the century are now once again thriving through the joint efforts of the State and Federal wildlife and land management agencies and concerned citizens."

This publication explores the changes in wildlife populations and habitats in the Intermountain Region from the first days of settlement to the present. It explains the philosophical and physical transitions and the reasons behind them. Three major eras are discussed — early history from the days of the fur trader and pioneer to the establishment of the Forest Service; custodial history from the establishment of the Forest Service to 1950; and modern history from 1950 to the present.

We invite you to examine the events and forces that have shaped the development of a great national treasure — wildlife and its habitat in the Intermountain Region.

JOHN W. MUMMA
Director of Wildlife
Management
Intermountain Region

Courtesy of Mr. Almer Nelson.

(About 1905) Photo of Henry Moser or one of his party at the present location of the Wyoming Game and Fish patrol cabin. Foreground is principally occupied by herbaceous species. Mountain big sagebrush is of low density, being more prevalent on slopes. Large, dark shrubs around spring are willow.

1972. Mountain big sagebrush now predominates in foreground and midground. Dead stems mark location of large willow in 1905 photo. Accelerated erosion about the spring is attributal to road which bisects gullies. A sparse plant cover continues to occupy upper slopes.

(Both photos discussed in Volume I — "Fire's Influence on Wildlife Habitat on The Bridger-Teton National Forest, Wyoming" by George E. Gruell.)

DESCRIPTION OF REGION

The Intermountain Region is one of the most diverse Regions in the Forest Service, with a wide range of resources. Most of the western forest types are represented in the Region, including major coniferous species such as ponderosa and lodgepole pine, Douglas fir, alpine fir, Engelmann spruce, pinyon-juniper, and white bark pine. Vegetation ranges from desert species to those associated with high elevation habitats above timberline. Geological features are varied, and the Region is noted for outstanding fossils, including many species of prehistoric reptiles from several periods. Energy and mineral resources are rich in the Intermountain Region, with large deposits of phosphates, gold, coal, oil, natural gas, oil shale, and other hydrocarbon-bearing materials. There is active geothermal production as well.

The Intermountain Region is the largest Region in the Forest Service, comprising 31.1 million acres of National Forest lands. It supports numerous wildlife species and fisheries — some with nationally significant populations. It ranks high among all Forest Service Regions in total mule deer, elk, antelope, moose, bighorn sheep, black bear, and mountain lion populations. Upland game is significant in the Region. There are blue grouse, ruffed grouse, sage grouse, chukars, morning dove, and a few turkeys, as well as substantial populations of snowshoe hares and cottontails. The Region contains 28,563 miles of fishing streams on National Forests, including more than 1,000 miles of salmon and steelhead waters. There are 4,463 lakes and 262 reservoirs with 171,338 acres of habitat. Many of the lakes are in alpine areas of the Forests.

Over one-fifth of all big game harvested on National Forests, nationally, comes from the Region. It ranks second in the number of fishing user-days. The quality of the wildlife resources is exceedingly high and attracts visitors from all parts of the nation. In 1979, over 4 million hunting and fishing user-days were enjoyed on the Forests of the Region.

The 31,187,149 acres of National Forest land in the Intermountain Region are located in the following six States:

Utah	8,046,181 acres
Southern Idaho	13,524,393 acres
Western Wyoming	3,873,002 acres
Nevada	5,083,262 acres
Colorado	27,105 acres
California	633,206 acres

There are 18 National Forests in the Region (administered by 16 Supervisors' Offices), 79 Ranger Districts, and 1 National Grassland.

Areas with special designations include:

National Recreation Areas — 3
(Hells Canyon is partially in the Intermountain Region, but is administered by the Pacific Northwest Region.)

Wilderness Areas — 8
(Hells Canyon also falls in this category.) The "River-of-No-Return Wilderness," 2,239,000 acres in central Idaho, was established July 23, 1980. It is the largest Wilderness in the National Forest System.

Primitive Areas	1
Scenic Areas	4
Wild Rivers	2
Geological Areas	2
National Scenic Trails	2
National Historic Trails	1
National Recreation Trails	33
Research Natural Trails	12
Experimental Areas	2

Early history of the Region is rich with exciting accounts of explorers, travelers, and mountain men. Permanent settlement, however, is largely due to the Oregon Trail development in 1843 and the immigration of Mormons who arrived in the Salt Lake Valley in 1847. From that initial colonization, followers of the LDS Church spread outward into Idaho, Nevada, western Wyoming, and other areas. Forested lands in the Intermountain Region provided essential resources for early settlers, including timber and wildlife. Much of that land area became part of the National Forest system when the Forest Service was established.

Wildlife in the Intermountain Region was exploited for subsistence in the early days of the West. By the time the Forest Service was created, there were profound problems. Many populations had been extirpated or severely reduced, especially big game animals such as bighorn sheep, mule deer, elk, antelope, and buffalo.

EARLY HISTORY

Before white settlers arrived, various Indian tribes occupied the Forests that now make up the Intermountain Region. Early accounts suggest enormous wildlife populations, while others indicate a scarcity. Obviously, there were many separate environments in the Region, some favorable to wildlife, others not. Indian tribes no doubt had made an effect on wildlife populations. Some tribes were known for hunting while others were content to subsist on berries, grains, small birds, and mammals.

In 1776, Father Escalante penetrated the Region and recorded the first information on wildlife. His party fed on numerous fish and wildlife species in the Utah area. He noted that Indian tribes camped on the shores of Utah Lake (Lake Timpanogas) were drying hundreds of salmon-like fish taken from the lake and adjacent streams. The Indians used the dried fish for subsistence.

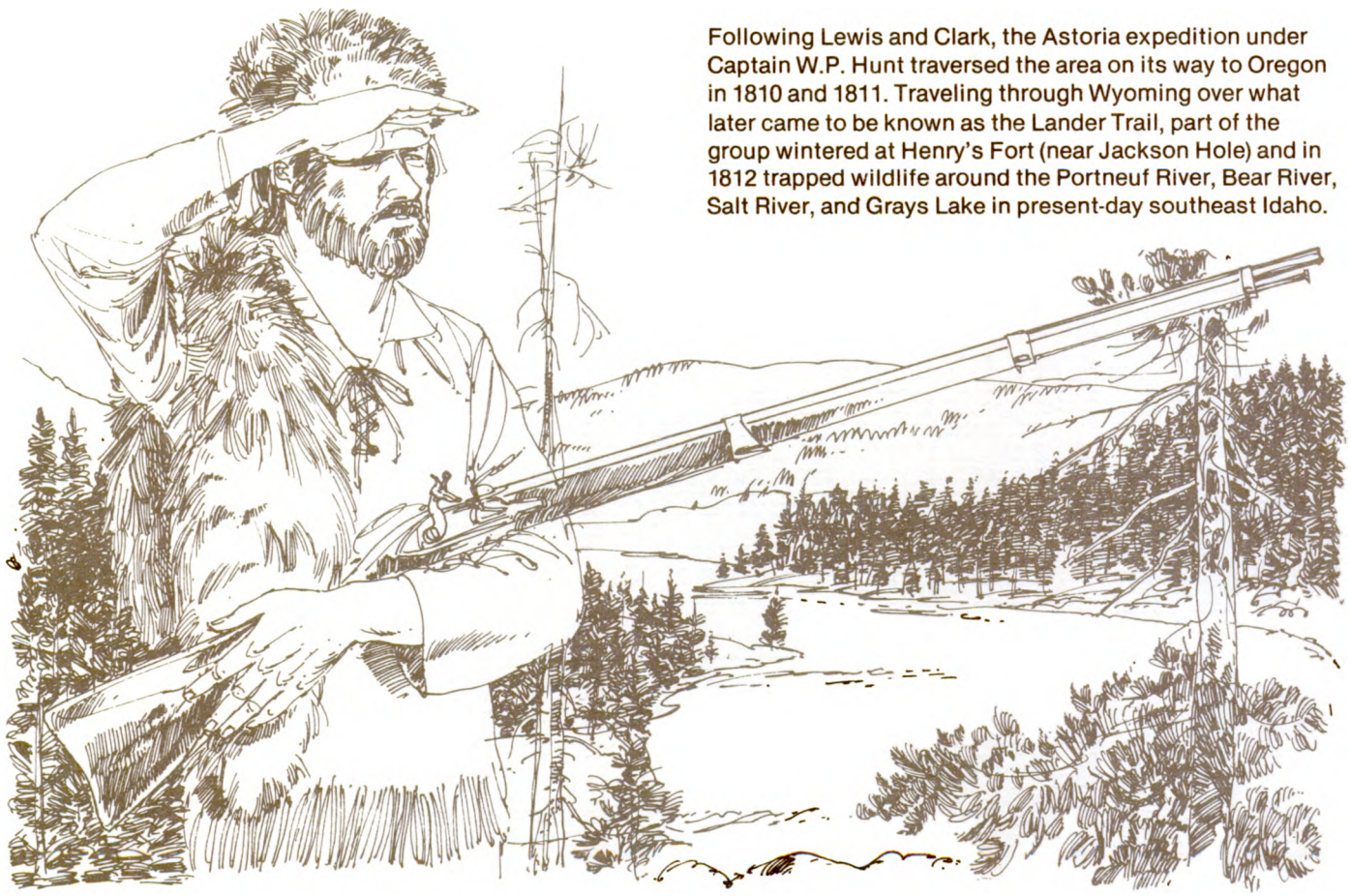
Father Escalante's party killed buffalo and traded with the Indians for bighorn sheep meat, but he noted a lack of deer. He wrote in his diary that wildlife in general was quite scarce and it was necessary for their party to kill some of their horses in order to survive.

A large commercial fishery was established in 1847 to utilize the native Bonneville (Utah) cutthroat of Utah Lake and its tributary streams on what is now the Uinta National Forest. Native cutthroat trout up to 40 pounds were present in the lake and provided the early settlers with food to supplement their diet of other wild game.

When Lewis and Clark journeyed through the Salmon National Forest area in August and September of 1805, they reported seeing deer, antelope, elk, bighorn sheep, hares, ruffed grouse, prairie fowl, goose, and salmon. Local Indians used the fur and hides of beaver, buffalo, wolf, coyote, fox, wolverine, marten, mountain sheep, deer, antelope, otter, and weasel.

The first mountain men in the early 1800's found habitat that was relatively "natural," in that resources were utilized only by Indians. When Lewis and Clark entered Idaho in 1805 and John Colter explored Wyoming in 1807, the forests and ranges were products of natural events. Fire was the main factor that altered wildlife habitats.

Following Lewis and Clark, the Astoria expedition under Captain W.P. Hunt traversed the area on its way to Oregon in 1810 and 1811. Traveling through Wyoming over what later came to be known as the Lander Trail, part of the group wintered at Henry's Fort (near Jackson Hole) and in 1812 trapped wildlife around the Portneuf River, Bear River, Salt River, and Grays Lake in present-day southeast Idaho.



Jedediah Smith, leading a group of fur trappers, made the first north to south traverse of the Region in 1827 when he went overland from the vicinity of Ogden, Utah, to southern Utah and across Nevada to California. The following spring, on his return to the Bear Lake fur-trapper rendezvous of 1828, he effected the first west to east crossing of the Great Basin. He traveled over the Sierra Nevada Mountains that are within the present Tahoe and Toiyabe National Forests, crossing the Nevada and Utah deserts in an area that is now part of the Humboldt and Wasatch-Cache National Forests. His party was able to survive because of the numerous fish and wildlife species they found on this epic journey.

Many entries in pioneer journals reflect the area's numerous and unique wildlife populations. One pioneer using the Lander Trail describes the area near Grays Lake on the present Caribou National Forest by saying that he "took dinner near a pond or lake which was literally alive with duck and mink."

Frederick C. Lander, United States Department of the Interior engineer who surveyed the route for the pioneer Lander Trail Cut-off from the Oregon Trail, remarked: "The route is but a few days shorter of travel than the present emigrant roads, but is so abundantly furnished with grass, timber, and pure water, with mountain streams abounding with fish, plains thronged with game. . . an excellent and healthy emigrant road. . . " Reliable records indicate that 13,000 emigrants passed over the road during the first year, accompanied by large herds of cattle. These emigrants all made use of the area's abundant wildlife species for survival.

Fur trappers found bountiful populations of wildlife in the Forests of the Region, with mountain men arriving from the east as soon as word spread. Great rendezvous were held and relationships with Indians were basically peaceful.

Peter Skene Ogden found buffalo (bison) by the hundreds in the upper Lemhi Valley in 1825. In 1831, John Work reported seeing a large herd of elk in the mountains near their camp on the Lemhi River and a week later many buffalo on the upper Lemhi, probably in Timber and Eighteen Mile Creeks. Warren A. Ferris killed a gray wolf, probably on the North Fork, in August 1832, and reported that it was fat and made a tolerable supper.

The bison west of the Continental Divide were called mountain buffalo. They were generally smaller, more active, more timid, with lighter, silkier robes than the bison of the plains. There are few reports of them after the 1840's and 1850's.

There are sites in the Salmon National Forest area believed to have been used by the Indians to kill bison before the

Indians had horses with which to chase their game. The Indians maneuvered the bison herd to stampede over a cliff (called a buffalo jump) and other Indians stationed below finished the kill.

Whitetail deer were common when the area was first settled. Called brush deer, they were considered a pest by the settler. They rapidly declined in numbers and became a rarity.

Historical records of pioneer times in the West generally suggest an abundance of wildlife. Bison populations were estimated to be in excess of 60 million. Antelope numbered half that many, while deer, elk, small game, furbearers, upland game, and fish were present in large numbers.

Early trappers traveled great distances to reach the virgin areas of the Intermountain area. Peter Skene Ogden, of the Hudson Bay Company, wandered the mountain ranges of Nevada (now the Humboldt National Forest) in 1826, collecting rich furs from the abundant wildlife species occupying the area.

Each western State and National Forest has its legendary mountain men. Accounts of their fur-trapping successes permeate our historical records.

The years between 1825 and 1840 were formative ones in the history of the Rocky Mountain fur trade because of the aundance and diversity of wildlife. During this period, the mountain men fur trappers held 14 of their 16 rendezvous in the Utah, Idaho, and Wyoming portion of what is now the Intermountain Region. Wildlife was the calling card that lured these trappers into the unexplored wilds of the Intermountain West. The importance of wildlife to the fur trade is exemplified by one season's trapping success

of the Smith, Jackson, and Sublette Fur Company. During the 1828 rendezvous at Bear Lake, near present-day Laketown, Utah, the following products were tallied:

7,400 pounds of beaver skins
94 pounds of beaver castor
102 otter skins

In St. Louis, a value of over $60,000 was placed on these furs.

This 16-year period, the primary fur trade era of western America, took a heavy toll of the area's wildlife populations. But there is no doubt that the wildlife resources of bison, grizzly bear, wolves, beaver, muskrat, mink, otter, deer, elk, waterfowl, and fish were recognized as the most valuable western America resource and one which made the Intermountain area famous world-wide as a wildlife paradise.

Fort Hall was established on the Snake River July 15, 1834, as a supply station for the Boston Fur Company. Fish and wildlife resources of the Region were the primary reason western explorations were so vigorously pursued by Americans during this era. The first overland wagons left Fort Hall on August 5, 1840, for Fort Walla Walla on the Columbia River. "Oregon Fever" hit the East in 1843 and mass westward migration began. Early pioneers using the Oregon Trail and its many cut-offs to Oregon and California subsisted primarily on wildlife resources. Scientist-explorer Captain John C. Fremont visited the Intermountain area in 1843-1846, making the first soils analysis and documenting the occurrence of many wildlife species.

Brigham Young's arrival in 1847 represents the most important colonization of the Region in terms of people and use of the forest resources. Once settled in Salt Lake City, Mormon pioneers radiated outward and homesteaded the bulk of the area. By the late 1800's, LDS Church followers were well established in southern Idaho, Nevada, all of Utah, and western Wyoming, particularly Star Valley.

Civilization was moving west as well, and by the mid-1800's, white settlements dotted the western landscape. Many pioneers looking for treasures in California stopped in the Region and made their homes. Each family utilized forest resources and soon the choice areas were occupied by homesteaders.

The Forests yielded timber for homes, land for farming, grass for livestock, water, and ore. Prior to colonization, lowland valleys in the forested areas were important feeding areas for elk, deer, and antelope. As soon as settlers selected an area, they farmed the choicest valleys and turned their stock out to graze. Conflicts with wildlife were developing; big-game was harvested for subsistence and driven higher into the Forests as their habitat was used by pioneers.

Fish and game populations were basically abundant throughout the first several decades of settlement. An excerpt from Orville C. Pratt's diary gives a glowing account which sums up a typical reaction to the early American West:

Tuesday, September 26, 1848: Camped today on the Sevier River (Utah) after marching 10 miles and found the grass very good. . . water is fine, but no wood. The men caught some of the finest trout here that I ever saw — some of them I would say would weigh at least 4 pounds. They have the same color as the trout of western New York with red specks, but the color of the spots on the trout from the Sevier is black and instead of being distributed on the sides in parallel rows, they are found spread all over the surface in an irregular manner. The valley of the Sevier,

where we struck it, is the finest I have seen since leaving the United States. Many thousands of acres of the best bottom land all lie in a body, and the surrounding hills will supply an ample quantity of stone, coal, deer, elk, and mountain sheep, and all sorts of game found here in great abundance. . .

Some day or other, and that not distant, it will swarm with hundreds of enterprising countrymen and be regarded, as in truth it is, the garden of the great basin of the California mountains.

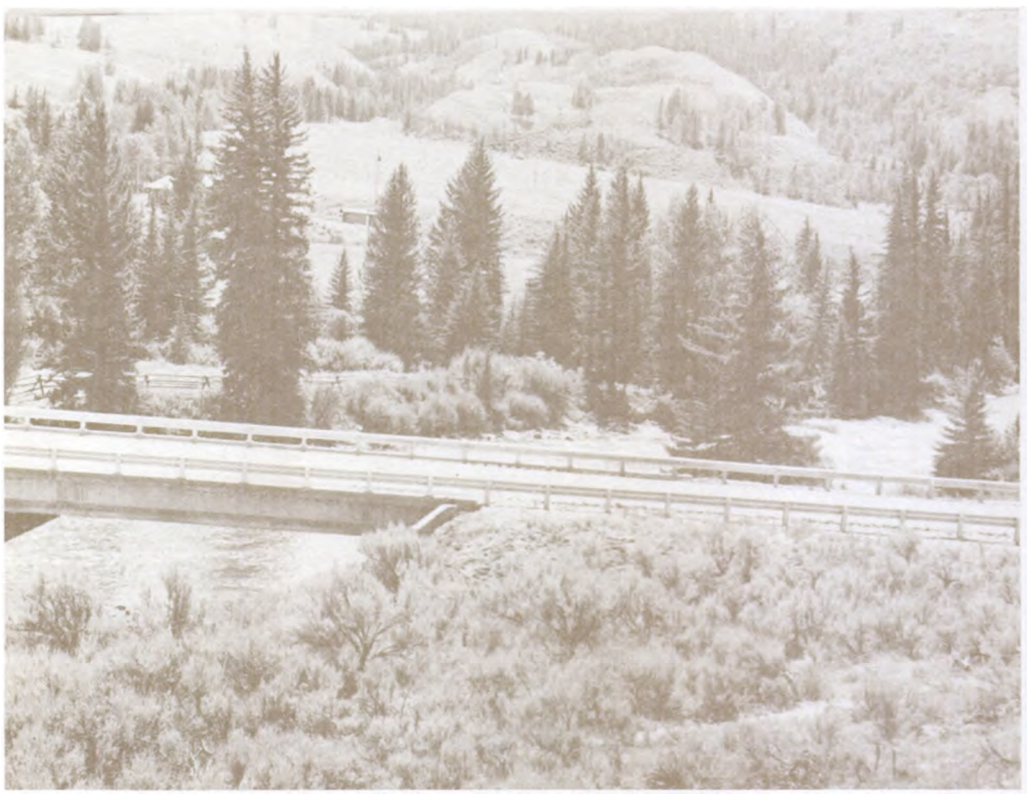
Pratt's prediction was accurate — in a few short decades the abundant fish and game would be exploited by settlers who saw no end to the cornucopia of bountiful wildlife. No part of the Intermountain Region would escape the hands of man, except for the remotest parts of the most rugged mountain ranges.

Elsewhere in the Region, there were early accounts of plentiful big-game populations, as related in this history of the Minidoka (Sawtooth) National Forest:

At the time of first settlement, big game was particularly plentiful, not only in the mountain regions, but in the foothills and lowlands. White-tailed deer and antelope existed in the foothills and along the streams, mule deer by the thousands occupied the mountainous regions. A small band of mountain sheep and a few mountain goats and elk ranged in the rough country near what is now called Ibex Peak. Black and cinnamon bears with an occasional grizzly were pretty well scattered over the mountainous areas. The buffalo, which, judging by the bones and buffalo trails were at one time particularly plentiful, had all but left by the 1880's. Apparently the heavy pioneer travel through this area coupled with its occupation by cattle induced the buffalo to migrate northward. By 1890, the mountain sheep, goats, elk, and bear had practically, if not entirely, disappeared, due to the inroads of the increasing numbers of hunters. With the establishment of numerous ranches throughout the lowlands, the white tail and antelope were killed out and driven to the higher ranges. As late as 1890, pioneers say that mule deer could be seen in bunches of as high as 250 and it was possible to stand in one spot and kill a winter's

President Chester Arthur's party crossing Gros Ventre River in 1883 at outlet of Miner Creek, Wyoming. View is southwest with fork of Miner Creek at left. Willows line the river banks, while the darker shrubs in foreground, based on present composition, appear to be Woods rose. Ring counts of fire-scarred lodgepole pine suggest the fire of 1879 killed the spruce in foreground and swept the far slopes. At the time, aspen were in advanced succession.

F. Jay Haynes photo, courtesy of Haynes Foundation; Mrs. Isabel M. Haynes, President.



87 years later

Mountain big sagebrush has replaced Woods rose in foreground and is now conspicuous across the river. The Gros Ventre cattle driveway runs through foreground. Disturbance from bridge construction has removed much of the vegetation in the road right-of-way. Blue spruce now dominate midground. Conifer cover in distance has increased at the expense of aspen.

(Discussed in Volume 1 — "Fire's Influence on Wildlife Habitat on the Bridger-Teton National Forest, Wyoming" by George E. Gruell)

supply of meat. It seemed quite the custom for ranchers to take a wagon or two up into the mountains in the fall, kill a number of deer and haul them back to the ranch like cordwood. It is related that Utah residents from Brigham City and vicinity would come up after their annual supply of meat about this time. About the time of the creation of the Forest, the game is spoken of as being 'pretty well depleted.' The apparent unlimited supply was now running out.

The Sawtooth Mountain Area Study-History gives these additional impressions of early wildlife habitat:

The grass and herbaceous cover in the Sawtooth Valley, the Atlanta Basin, and in other parks and openings in the heavy timber cover at the heads of the Boise, Payette, and Salmon rivers at the time of the advent of the white man must have been something to see, indeed.

So marveled the enthusiastic newspaper editor at Bonanza City in 1879. Pioneer Sawtooth sheepman Ben Darrah, in his reminiscences, had some cogent observations on the same topic:

All the range in the early days was good. The lower country, where there is now little but cheatgrass, was covered with bunchgrass, which served as dry feed throughout the winter. The high Sawtooth mountain ranges were very good, being covered with bunchgrasses and herbaceous plants.

Again quoting from Ben Darrah following the establishment of the Sawtooth Forest Reserve (Sawtooth and Boise National Forests):

The way we were ruining the country. . . some sort of regulation was necessary. . . Very few wanted Government regulation, but most of us knew we needed it, and eventually all fell into line. . . If the (Sawtooth) National Forest had not been created, the area it now embraces would soon have been a dust bed, and good range would no longer have been available.

The creation of the Sawtooth and Boise National Forests in July 1908, from the original 1905 Sawtooth Forest Reserve and the February 1908, Sawtooth National Forest . . . brought about a change for the better in grazing numbers and use, and a corresponding improvement in range and watershed conditions. In some cases, the change was abrupt; in others, slow in coming.

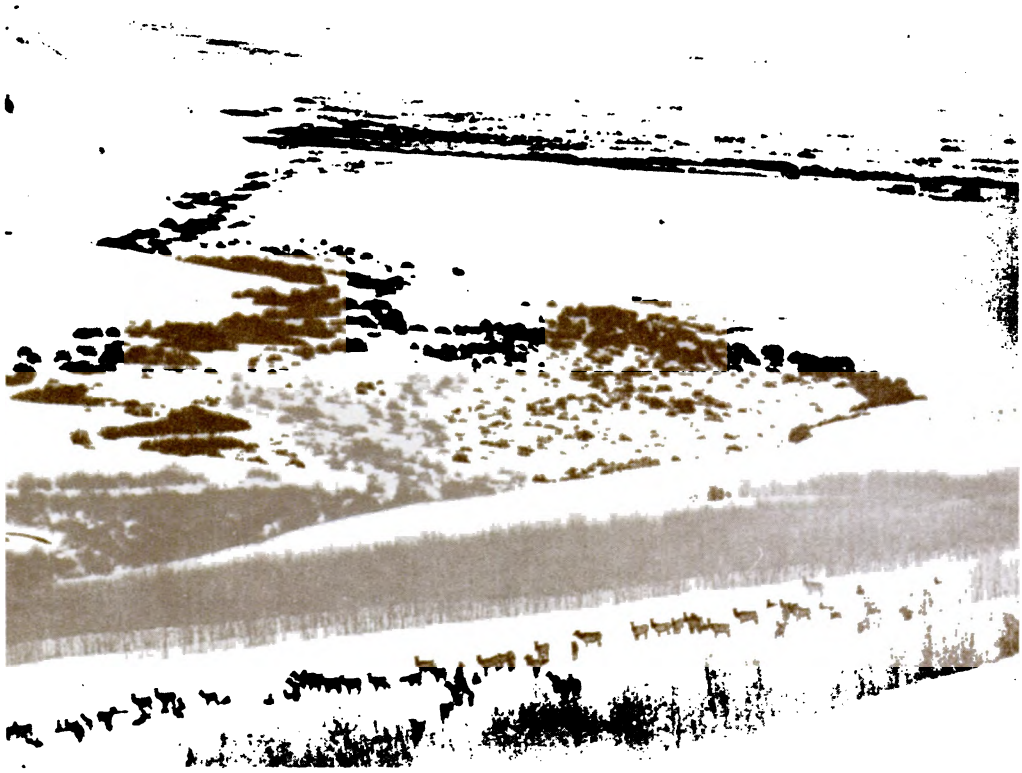
When lowland valleys were settled by pioneers, it became immediately apparent that the nearby forested mountains would nicely accommodate the grazing needs of livestock in the hot summer months. In some areas such as the arid portions of Nevada and Utah, the high country offered the only hope of maintaining stock on a year-round basis. In just a few years, virtually all the Forests of the Intermountain Region supported livestock. Cattle were the first to come, then sheep.

But the heavy grazing on the Forests did not stop with locals. Great tramp herds of sheep and cattle wandered in whimsical fashion, abusing the habitats further. This severe overuse, in addition to indiscriminate timber cutting throughout the latter part of the 1800's and early 1900's, made profound changes in wildlife habitat in virtually every part of the Region. Unfortunately, those changes were not always favorable to big-game herds. The young Forest Service faced many problems.

Some historians suggest that the scarcity of game in some areas was directly due to inroads made by Indians. The history of the LaSal Forest makes the following point:

To some degree the low deer population on the LaSal Forest was the result of heavy hunting by Indians. As pointed out earlier, the LaSal and Blue Mountains had attracted Indians since time immemorial. In part, this was a matter of game. In 1853, Captain John Gunnison had found the Uncompaghre Utes following migrating herds along the Gunnison River. Mormons of the Elk Mission had carried on a brisk trade for buckskin in 1855. And after settlers arrived, frequent reference was made to Indian hunts. During the reservation negotiations of 1888 Utes were adamant in their demands that the LaSal Mountains be included in the proposed reservation because of their hunting potential. The commissioners rufused to make this concession but did assure the tribesmen full hunting rights on the LaSals. Sensing that the LaSal Mountains would ultimately be off limits to them, Southern Utes are said to have launched a hunt to extinction policy in 1884. By white accounts 2,500 head of deer were killed in 1886 most of which were skinned and the meat left to rot. These big hunts were continued into the years after 1900 when Don Taylor of Moab saw one Indian with fifteen green deer hides thrown across his horse.

Wolves and grizzlies met their match in the 1800's and early 1900's. After countless centuries in the Intermountain Forests, they would be nearly wiped out in a few short decades. Man simply could not coexist with predators that ravaged his livestock and placed fear in his heart. Grizzlies and wolves were not to be reckoned with; all-out efforts were launched to destroy them entirely. The mentality of the era was not one of respect and admiration of predators, but one of disdain and hatred. Indeed, the early wildlife programs in the infant Forest Service were aimed at destroying predators. In 1909, Gifford Pinchot stated that in that year alone, 51 rangers spent 107 working days



(1902)

Looking north from the south end of Snow King Mountain. Elk in foreground are on historic winter range. Adjacent aspen stands are even-aged, having regenerated after the wildfire of 1879. Willow occupy the Flat Creek bottom lands below. The Karns homestead is at right-center, while other homesteads are in distance at right.

Trester photograph courtesy of Fred Muzzula, Denver, Colorado.

(March 10, 1974)

72 years later

The original view was blocked by dense Douglas-fir growth. Camera is above and to right of 1902 position, in the largest opening. With advancing succession, a majority of the parent aspens in the original stands below have died out. A low level of ungulate browsing has allowed spotty regeneration. Elk are now almost entirely confined to the National Elk Refuge north of Jackson in distance.

Note the growth of the town of Jackson.

(Discussed in Volume I — "Fire's Influence on Wildlife Habitat on The Bridger-Teton National Forest, Wyoming" by George E. Gruell.)

killing 108 bears, 96 mountain lions, 144 wolves, 62 wolf pups, 3,295 coyotes, 571 wildcats, and 81 lynx.

An account from the history of the LaSal National Forest reveals the typical attitude toward wolves:

The most spectacular predators of all were the wolves. Not a problem during the first decades, they became the worst killers by 1910. There is no way of measuring wolf populations, but it is clear that numbers were up sharply during the period after 1910. They ranged generally in the country around the LaSal Forest, doing as much damage in adjacent deserts as on the mountains, but it was thought that they were most prevalent on the Elk Mountains and in the canyon drainages thereabouts. Wolves killed with a wanton joy that not only struck the rancher economically but frightened him as well. Because of this and the far-flung ranging habits of some wolves, reports likely tended to exaggerate wolf numbers; however, there can be no question there were enough of them to constitute a serious problem. The years 1911 and 1912 probably saw wolves reach their greatest number — at least contemporary records refer to them most frequently during those years.

In December of 1912, a report appeared in the Grand Valley Times *that illustrates this point. Victor Corn of Grand Junction left for his ranges in Utah with five pack and saddle horses. The second night on the road his horses were attacked by wolves. Three were killed outright and "almost entirely devoured." The fourth was hamstrung, forcing Corn to shoot it. Following Corn's trail during the next day, the wolves killed his last horse on the third night, and Corn beat a terrified retreat to Thompson the next day.*

Today, there are remnant wolf populations in several Idaho National Forests. In 1978, a full-grown male wolf was shot on the Boise National Forest. Afterward, a female wolf with four young was seen in the same area. Other reports of wolves continue to circulate.

Grizzlies were completely extirpated from most of the Region by the 1920's. Old Ephraim, a popular Utah grizzly, was killed on August 22, 1923. The great bear was a stock killer and doomed to die for his destructive nature. He was thought to be the last grizzly in Utah. Nevada records show no historical accounts of grizzlies and while California claimed the largest population in the lower 48, none exist there today. The last stronghold of the grizzly in the Intermountain Region is on the Bridger-Teton and Targhee National Forests in Wyoming and Idaho.

Because of over-shooting and habitat damage, the last four decades of the 1800's and the first of the 1900's was the period of greatest destruction to wildlife. A rebuilding process was initiated as the Forest Service and the State wildlife agencies took roots, and wildlife populations slowly made an upward turn — for big game ungulates — not large predators. It must be remembered that grizzlies, wolves, coyotes, and cougars were not killed by bloodthirsty men, but by a society that sincerely believed the predators were responsible for severe stock and wildlife losses. The philosophy of the day was simple — destroy the beasts that killed creatures desired by man. In the minds of most early American, every grizzly, coyote, and wolf was a horse killer or stock slayer — justifiable reason to exterminate them forever.

Since the Kaibab Plateau in northern Arizona was once part of the Intermountain Region, it merits discussion because of its profound implications on early wildlife management.

Before being settled, the Kaibab was an isolated area with productive mule deer range. It was the favored hunting ground of Navajos and Paiutes who harvested most of their winter meat from the healthy herds that roamed throughout. A thriving cougar population kept deer herds thinned to optimum levels.

The Kaibab Plateau had all the essential habitats necessary for mule deer. Summer, spring, fall, and winter ranges accommodated their seasonal needs and forage requirements. It was truly a splendid environment for many wildlife species, particularly deer.

In 1882, geologist C.E. Dutton said this about the Kaibab: "We, who through successive summers have wandered through its Forests and parks, have come to regard it as the most enchanting region it has ever been our privilege to visit. . . . There is a constant succession of parks and glades — dreamy avenues of grass and flowers winding between sylvan walls or spreading out into broad open meadows. From June until September there is a display of wild flowers beyond description."

Dutton's glowing appraisal was short-lived. Stockmen saw the plateau as a perfect place for cattle. In 1885, 2,000 cattle were turned loose. By 1913, the Kaibab supported 15,000 cattle and 5,000 sheep.

Livestock grazing, however, was not the only reason for the tragic events that were to come. It was the interaction of several new policies that changed the natural environment of the lovely Kaibab Plateau.

The next few pages are an excerpt from John P. Russo's fine work entitled THE KAIBAB NORTH DEER HERD — Its History Problems and Management, July 1964.

Theodore Roosevelt's interest in the Kaibab North was stimulated by several trips he made there to hunt lions. His

hunting cabin remained a cherished landmark for many years until it was destroyed. A Forest Service sign marks the hunting camp.

An act of Congress, dated June 29, 1906, provided that the President of the United States designate the Grand Canyon Forest Reserve to be set aside for the protection of game animals. By virtue of the authority granted in this Congressional Act, on November 28, 1906, President Theodore Roosevelt created the Grand Canyon National Game Preserve. The Proclamation set aside all those lands within the Grand Canyon Forest Reserve." This area is now referred to as the North Kaibab National Forest.

GROWTH AND DEATH OF A DEER HERD

A rapidly growing deer population accelerated the deterioration of desirable forage browse and forbs. Large sheep herds contributed greatly to this range recession. It was not long before the invading plants, subdominant forbs, annuals, undesirables and normally unpalatable plant types, began to show signs of extreme use. Deer were on a starvation diet. To this day scars from early range abuse can be found on those plants not normally considered palatable food types for deer or livestock.

Kaibab National Forest, Arizona

Photo showing highlining and heavy utilization of vegetation on North Kaibab. Evidence of some of this heavy use is still evident today.

Historical data of deer and predator numbers are conspicuously absent from early accounts. Although some mention is made here and there in a progress report or letter, little information is available prior to 1906.

According to Rasmussen (1941), the deer population in 1906 was estimated at 3,000 to 4,000 animals. Rasmussen also states that about 500 Kaibab Indians occupied the area around 1870. Of these, 200 were adult men who did the hunting. Hunting was carried on all year, but the heaviest kill was made in the fall. It is estimated that 800 deer were removed annually. Therefore, it figures that the Indians could not remove over 30 percent of the herd each year, if the total deer population was stabilized during these decades. Rasmussen estimated the herd increased to approximately 100,000 head between 1906 and 1924.

One report from that period reads like this:

> *1925. . .*
>
> *From observations made thus far, it is Ranger Swapp's opinion that there are not the deer on the range there was a year ago and that evidently a large number of old deer died with the fawn loss last winter.*

A high fawn loss was almost always expected. It had happened year after year for so many years it was considered normal.

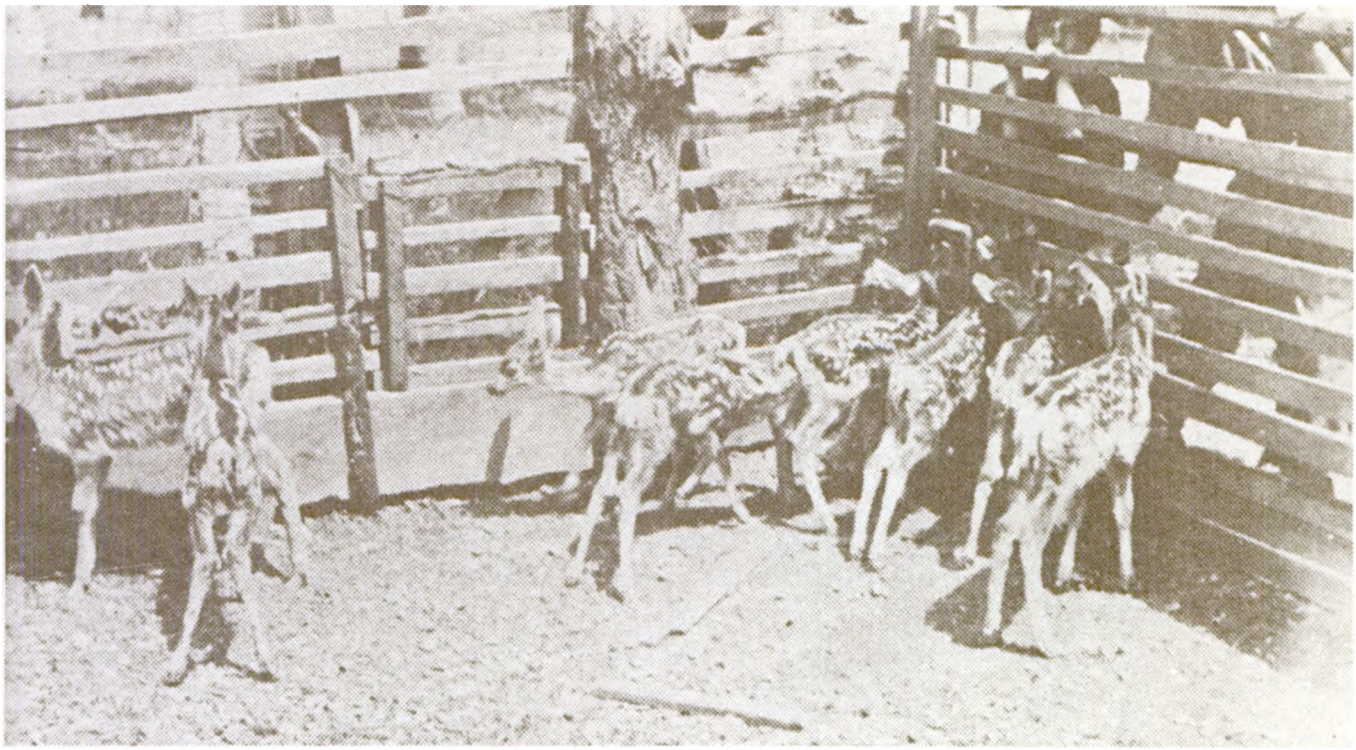
But even prior to the early writing, some action was taken to relieve the range and drive off some of the deer.

THE DEER DRIVE

The infamous deer drive of 1924 is an event that sounds more like fiction than fact. Several sportsmen generated interest in civic groups and sport organizations with the belief that a large number of Kaibab deer could be driven from the Kaibab North in a herd, across the Grand Canyon and onto depleted ranges in other parts of Arizona. Too, in this manner, the over populated Kaibab North could be relieved.

Leading citizens of Flagstaff and various organizations financed George McCormick, of Flagstaff, in this rather ambitious enterprise. McCormick entered into an agreement in which he and his cohorts were to deliver not less than 3,000 nor more than 8,000 deer to the South Rim of the Grand Canyon where they would receive $2.50 for each deer delivered.

Permission was given by the Forest Service and the National Park Service for the drive from South Canyon to



North Kaibab National Forest Holding pens for fawns. 1925.

Fawn-feeding herd in Fredonia, Arizona, near Kaibab National Forest. Deer were brought from the Forest and placed in cultivated fields with the intent to raise fawns for purchasers throughout the United States.

Saddle Canyon, down into Nankoweep Canyon in the Grand Canyon, then across the Colorado River, and up the Tanner Trail to the South Rim.

On December 16, 1924, the members of the drive took their positions, 125 strong, of which 70 were Navajo Indians. Loaded down with tin cans, cowbells and any other object that could make noise, the men formed a line on foot and on horseback. With a crash that sounded like an aborted clap of thunder the line moved forward, men hollering and clanging their noise makers. With each step, the line wavered and became a little more disorganized and irregular. To make things worse, a storm that had been threatening became reality. Several lost their way in the storm and wandered about trying to find a way out of the Forest or to locate a familiar landmark. Others, realizing the futility of a deer drive, gave up and turned about.

Mann and Locke (1931), mention, "At Saddle Canyon, there were no deer in front of the men but thousands of deer behind them, and the drive was abandoned as impossible."

The winter of 1924 was the last straw. Forage ran out, and deer died by the thousands. In many parts of the plateau, up to 90 percent of the forage was gone. One account states: "Those that lived ate every leaf and twig till the whole country looked as though a swarm of locusts had swept through it, leaving the range torn, gray, stripped, and dying."

DIE-OFF . . . AND THEN MANAGEMENT

The die-off that occurred in 1924-1925 was not detected immediately. The only mention made in a report was Ranger Swapp's opinion that fewer deer were on the range than the year before. It is also mentioned in the report that 75 percent of the previous year's fawns died during the winter.

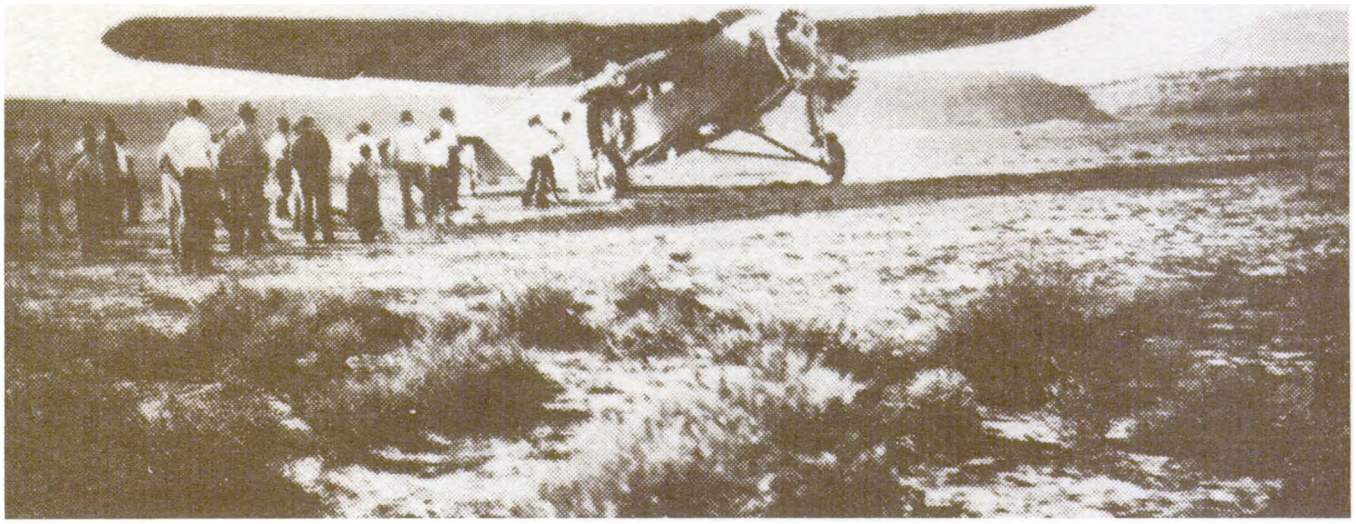
This clearly portrays the serious situation of the Kaibab North. The range was badly depleted. Deer numbers far exceeded the carrying capacity of the range, and cattle numbers were also far in excess of the available forage.

It is generally argued among professional field men and among sportsmen that 1925 was the turning point in the management of the Kaibab deer herd. Possibly! Perhaps this was more pronounced because a die-off was occurring.

Deer losses continued through 1925, 1926, and 1927. Dead deer were found on the summer as well as the winter ranges.

Deer reduction was still the key word, and further control was extended when Government hunters were employed to kill deer.

"The object of the killing was to reduce the deer herd as much as possible by killing by Government employees ..."



Ford Tri-Motor plane used to transport fawns from the feeding areas located at Fredonia, Arizona. Fawns were brought from the Kaibab National Forest. Airplanes were used to transport deer throughout the United States.

"Authority was the decree of the United States Supreme Court of November 19, 1928."

Reminiscent of the buffalo hide-hunters, deer slayers took to the field during the latter part of December 1928.

"The visiting officer arrived on the fourteenth and the full force began shooting on December 15, 1928."

Each government man was supplied with a horse and a team.

"The saddle horse and team were kept at a fly camp located at Slide Reservoir. Officers and men rode to the point (from Ryan Ranger Station) by automobile. Hunting was done by horse back. Two men with team, buckboard, and two pack horses worked down the top of a main ridge."

". . . Each hunter was responsible for the cleaning and moving of the carcasses of the deer he had killed to a point of vantage where it could be picked up by the buckboard. . . "

The rifle smoke had cleared, 1,124 deer were stacked, racked, and distributed.

This action by the Government met with strong objection, caused considerable controversy. The Governor of the State of Arizona, George W. P. Hunt, and Game Warden of the State, D. E. Pettis, along with others, acted as appellants vs. the United States of America in the Supreme Court. Prior to this, the case was tried in the District Court of the United States. The decree was handed down by the District Court on June 24, 1927 (Mann 1929), and read,

"This decree shall not be construed to permit the licensing of hunters to kill deer within said Forest or Preserve in violation of the Game Laws of the state of Arizona."

The case was thereafter appealed in the Supreme Court, which reversed the District Court ruling and sanctioned killing of Kaibab deer by Government hunters.

This ruling led to cooperative agreements that contributed to recognizing the responsibility of the Forest Service for habitat management and the State fish and game departments for management of wildlife species.

Deer hunting was again authorized on the Forest, with about 1,000 taken annually for the next five years. But the habitat had suffered long lasting scars, and deer continued to die every winter. By 1930, there were an estimated 20,000 remaining; by 1940, the population was down to about 10,000.

During the first 25 years of the Reserve, 781 cougars, 30 wolves, 4,889 coyotes, 554 bobcats, and an unknown

The old Ryan Ranger Station — North KAIBAB National Forest, Arizona on the first day of the deer season in 1930. Checking stations have been cooperatively manned in conjunction with the Arizona Game and Fish Department for many years.

Slide Reservoir hunting camp, Kaibab National Forest. Believed to be the first public hunting camp on the Kaibab. Photo taken in 1924.

Kaibab National Forest, 1931

This could easily be termed, "The Good Old Days." The Kaibab National Forest has long been noted for producing large-antlered, trophy deer. Even though a die-off occurred during this time, a few hunters were able to select several large bucks. The 1931 deer harvest from the Region off Forest lands was 14,117 while in 1979 it was 82,123!

number of eagles were killed on the Kaibab. The program sounded the death knell for the wolf; they were eliminated forever from the plateau.

Ben H. Thompason, in reference to predator control, wrote: "It was done then with the idea that proper wilderness utilization would consist of killing the bloodthirsty animals so that people could enjoy the gentle ones. But we have seen what happened to the deer of the Kaibab and Grand Canyon. Unfortunately, the Kaibab was only the type case; the same thing happened in many places throughout the West in both National Parks and National Forests where deer and elk have been protected and their enemies destroyed. The whole difficulty arises because we have learned to appreciate only a few Wilderness aspects."

There is an important lesson in the Kaibab, one that wildlife biologists recognize as being essential to sound wildlife management. It is impossible to stockpile big-game animals permanently. Sooner or later, the carrying capacity of the range will no longer support the demands placed on it. People have largely replaced the other predators; it is up to us to maintain healthy wildlife populations, or nature will simply do it for us as she did on the Kaibab. We cannot afford a repeat performance of that tragedy, if for no other reasons than humanitarian.

In 1933, the Kaibab was administratively assigned to the Southwest Region, headquartered in Albuquerque, New Mexico. Its deer herds today are still the object of many studies.

HISTORY OF EARLY CUSTODIAL PERIOD (1905-1950)

Any history of wildlife habitat management in the early 1900's just prior to and during the early days of the Forest Service, must include a look at the uses of the Forests during the period. Timber and livestock grazing were the primary uses, with little regard for wildlife habitat. Few individuals, even educated men, had any knowledge of wildlife requirements. Research and experimentation were to come later in the century.

One of the immediate steps taken to improve the Forests was to control livestock grazing. This was a difficult task because the old Forest Reserves were literally controlled by powerful ranchers who never lived with restrictions. They simply grazed their stock whenever and wherever they wished.

In a letter dated December 26, 1905, President Theodore Roosevelt said to Secretary James Wilson:

in granting grazing permits, you give preference first to the small near-by owners; after that, to all regular occupants of the Reserve range; and finally to the owners of transient stock.

This is exactly as it should be. The small nearby owners are the homesteaders, the men who are making homes for themselves by the labor of the land and to bring up their children thereon. The other occupants of the Reserve range — that is, the larger ranch owners — are only entitled to come after the small man. If, after these have been admitted, there still remains an ample pasturage, then the owners of transient stock, the men who drive great tramp herds or tramp flocks hither and thither, should be admitted. These men have no permanent abode, do very little to build up the land, and are not to be favored at the expense of the regular occupants, large or small.

This system prevents the grass from being eaten out by the great herds or flocks of non-residents, for only enough cattle and sheep are admitted upon the Reserves to fatten upon the pasturage without damaging it. In other words, under the policy you have adopted the Forest Reserves are to be used as among the most potent influences in favor of the actual homemaker, of the man with a few dozen or a few score head of cattle, which he had gathered by his own industry and is himself caring for. This is the kind of man upon whom the foundations of our citizenship rest, and it is eminently proper to favor him in every way.

President Roosevelt's letter reflects the thinking at the early turn of the century. Concerns were voiced for sound grazing practices, but little was mentioned about wildlife range. Apparently Teddy, himself an ardent hunter and lover of wildlife, was not concerned with wildlife habitat

Forest Ranger watching herd of elk to determine whether they were being molested by predatory animals or poachers. Wyoming, 1912.

Humboldt National Forest. Pole Creek. This 1919 scene depicts heavy overgrazed pasture. Note high-lining of trees in the background, hedging of willows on the right and lack of herbaceous vegetation in the foreground.

Approximately 60 white-tailed jack rabbits are in the scene and are partially contributory to the conditions.

Same scene in 1977 showing meadow grasses including reseeding smooth brome. Note increase of willows and vegetation in the background. Area now largely grazed by horses.

problems. No doubt he did not perceive the over-grazed conditions of the forested lands at that time. Or if he did, he may not have understood the relationship of wildlife to the abused ranges.

Early Forest Service officers had their work cut out for them. Six-guns and fists were often their only means of negotiation.

Bill Anderson, one of the early supervisors of the Ashley National Forest, relates early accounts of his confrontations with stockmen:

In 1905, "We carried on with our line survey without interruption until we reached the Strawberry Valley, where I received notice to remove all the livestock from the Forest area that had been permitted to graze there by the Indian department. The experiences we had and the opposition we met up with is a long story. We were bluffed, threatened and the offer of bribery was an every day occurrence; none of which, I am very proud to say, changed our course of fair administration in the least. There were daily occurrences of strife with Forest users and their men, some more or less humorous and some not so funny.

And so it went. It took years for the fledgling agency to establish grazing laws on the new Forest, but the job was slowly accomplished. Gradually, every National Forest in the Intermountain Region had some sort of grazing program.

In 1884, Wyoming was reported to have a few sheep and 2 million cattle. By 1891, there were an estimated 1 million sheep, and by 1900 more than 5 million. Utah and Idaho each had some 3 million sheep by the turn of the century.

Much of the sheep industry was nomadic. Great tramp herds invaded the Intermountain ranges with no regard for the land. Cattlemen despised sheep, and range wars were common occurrences. Men, sheep, and cattle died as the battles raged.

This was the scenario when the Forest Service was established. There was no such thing as restricting livestock use for wildlife habitat purposes. To do so would mean certain hostilities from stockmen.

Interestingly enough, severe overgrazing by livestock was not always detrimental to wildlife habitat. Certainly many of the early Forests were heavily utilized by indiscriminate grazing, but in some instances severe overgrazing by cattle converted grasslands to brushy ranges. Mule deer found ideal habitats in the changed environments. The decline in population was partially due to the constant pressures of year-round hunting seasons. Sage grouse, also beneficiaries of sagebrush habitats, suffered the same fate.

Whereas heavy cattle grazing promoted brush production, heavy sheep grazing promoted grass production. Areas of prolonged sheep use were literally scoured of most desirable vegetation. Overgrazing by certain classes and types of livestock have different impacts on wildlife habitat.

Fires in the late 1800's and early 1900's created ideal habitats for a variety of wildlife species. Quaking aspen forests, which are favorably influenced by fire, provided forage and cover for elk and deer. Red-stemmed ceanothus, a plant adapted to fire, sprouted in the aftermath of fires and produced quality forage for elk. One particular fire, the great 1910 Idaho fire, was responsible for the creation of widespread elk habitat.

The turn of the century also saw increasing timbering operations in the Intermountain Region. Trees were generally selectively harvested at camps located in the woods and were used for products such as railroad ties, house logs, and fences.

But wildlife habitat was not always favored by man's disturbances and forest fires. On many Forests, lodgepole pine grew in dense doghair stands after a fire, closing off the sunlight. The lush undergrowth could not tolerate the shade, and many sites became inhospitable to wildlife.

During the early days of the custodial period, it was generally true that big-game was scarce on Intermountain Forests. Unrestricted hunting was a prime reason for the scarcity, but habitat abuse was an important consideration. Game laws were absent or weak, and the public viewed wildlife as an essential food source.

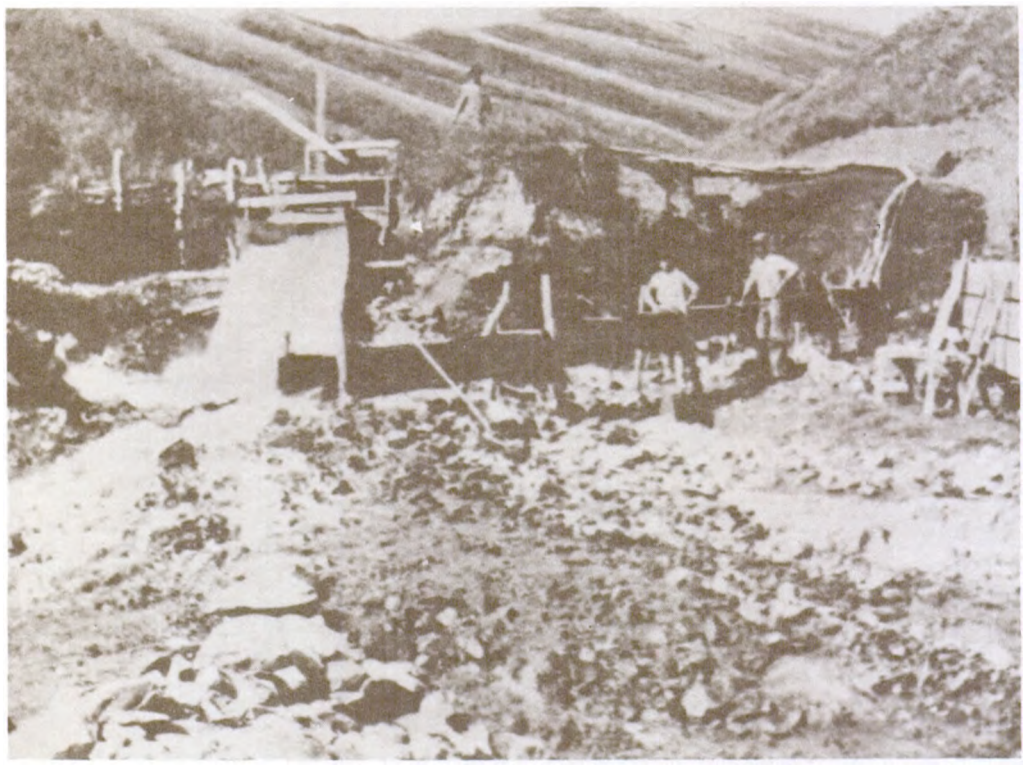
Fish habitat deteriorated profoundly at the turn of the century. Cattle and sheep grazed riparian habitats so badly that streambank erosion was an ubiquitous problem. Mining also had impacts on the vegetation and wildlife population.

As the new Forest Service began setting policies on National Forests, concerns for wildlife and habitat were addressed. In 1919, a manual of Fish and Game Management for the Intermountain Region was compiled.

The contents of the manual clearly announced the Forest Service's intentions for managing wildlife habitat in the Region. The "Summary of What We Expect to Accomplish" lists six key points:

1. Vigorous enforcement of State game laws on all National Forests.

2. Plan for a system of game refuges wherever their objects can be accomplished.



Van Duzer Placer Operation — about 1912. View of upper Van Duzer Creek from a point just above its confluence with Lime Creek. Slope on right appears to have a heavy grass cover. Browse species are big sagebrush and bitterbrush. Patches of heavy cover on north-facing slope are predominately bitterbrush. Patches of heavy cover on north-facing slope are predominantly aspen.

Humboldt National Forest, about 1912. Van Duzer Placer Gold Operation. These scenes represent some of the dramatic changes that have occurred. In this instance. 1912-1966. A period of 54 years.

June 3, 1966. The steep southwest slope on right has been invaded by big sagebrush. Grass species are scattered throughout. Bitterbrush losses are probable, but not apparent. Aspen cover has increased on north-facing slopes. Fir too have increased. The canyon bottom, left bare by the placer operation, has been stabilized by willow, currant, and other vegetal species. Today this stream supports a good fish population.

3. Stocking of empty waters and re-stocking of depleted waters with suitable fish. Construction of improvements necessary to maintain fishing and provide for efficient stocking.

4. Education of the public in the value of fish and game resources and the necessity for their intelligent administration.

5. Active work in encouraging the forming of fish and game associations whose objects shall be the development and protection of fish and game.

6. The study of the game and fish resources of the District, the preparation of a definite plan for their efficient management, the recording of data regarding the varieties and habits of wildlife occurring on the National Forests, and the collecting of information showing past conditions of fish and game.

The manual made a profound statement, one which indicates the perspective of wildlife in Forest Service policies: "Formerly fish and game development and protection was only a very minor duty, depending on time available and non-interference with other activities. The present policy places it in equal standing with our other main activities; the relative importance depending only on which requires most immediate attention."

So, in 1919, wildlife management was receiving attention from Forest officials. The plan also addressed conflicting interests and cooperative agreements:

Wherever the management of an area for game production conflicts with other uses, it is necessary that we appreciate the public demand for the preservation and increase of game. The criticism for any sacrifice in obtaining maximum protection for game is seldom from local sources and may be ill-founded. However, failure to properly protect game may cost us the confidence in our ability to properly safeguard such interests, of those interested in game production or wildlife. This demand, not being local and personal, is easily under-estimated until action has been taken which produces results adverse to our best interests.

There at present exist cooperative agreements which make our cooperation with the States very complete. The tendency is towards a still closer coordination of our work with that of the State Fish and Game Departments. These agreements place a definite responsibility on the Forest officers which should be met irrespective of the attitude of local representatives of the State Departments.

Payette National Forest.

"Milk-can" Packer with lots of fish leaving the Lake Fork Ranger Station. This was a common means of transplanting fish to high mountain lakes and streams.

Bridger National Forest, Wyoming.

Ranger E. E. McKee and Wyoming Game and Fish employee planting fish at the inlet of Fremont Lake.

These statements define the aggressive role that wildlife proponents in the Forest Service were establishing. Fish and game would be integrated into other uses, despite criticisms to do otherwise. It becomes obvious that wildlife management was growing strong roots in the infant agency.

The paragraph on cooperative agreements with States implies there was some resistance among the lower echelons of State agencies to permit Forest officers the responsibility of working with wildlife. This suggests early State's rights attitudes, but Federal roles were clearly defined in the formal signed agreements. Due to a general lack of manpower and funds, however, States often could not carry out their programs without assistance from the Forest Service. This was especially true in big-game restoration programs and fish stocking projects. The latter depended greatly on assistance from Forest officers. According to the 1919 Forest Service manual on fish and game for the Intermountain Region:

It will be the policy to increase the fishing as quickly as stock and funds for transportation are available. The Secretary of Agriculture is authorized 'to transport and care for fish and game supplied to stock the National Forests or the waters therein,' so that we may expend funds as well as labor in this work. The bulletin "Fish Planting in Public Waters" by Tarleton H. Rean, which has been distributed in the field, should be studied in preparing plans for stocking streams and the instructions given regarding the handling of fry in transportation should be followed in detail. Dairy thermometers may be purchased locally or will be furnished by the District Forester if requested.

Since in nearly all cases, unless considerable cooperation can be obtained, it will be necessary for us to furnish funds and labor for distribution in the field, provision should be made for this in our working plans. A greater number of fish should not be requested than can be distributed with funds and labor available.

Indeed, millions of fish were stocked on the National Forests of the Intermountain Region by Forest Service officials. In a history of the Salmon National Forest, accounts are given of trout plantings:

There have been many trout plantings over the years. Most early plantings were made using pack mules carrying the trout in five-gallon milk cans. Les Gutzman, past District Ranger at Copper Creek and Salmon, reported on trout plantings in the Bighorn Crags during the period 1938 to 1945. Gutzman, together with Carl Gaver, planted 24 of the lakes. They deposited rainbow trout in the Wilson Lakes, Yellowstone cutthroat in the No-Name Lakes and Golden Trout in the Big Clear Lake, Crater Lake, Pot Hole, and Goose Neck Lakes.

The native trout of the Lahontan Basin and specifically Pyramid Lake was transferred throughout the Intermountain area during the late 1800's to the early 1900's to enhance many mountain streams. The huge Lahontan cutthroat, termed the world's largest cutthroat trout, has all but become extinct since that time from overutilization, dams, and pollution from man's inconsiderate uses of its wildlife resources.

Another account, taken from the history of the LaSal Forest, relates an anecdote in reference to trout stocking:

For years, the LaSal Forest lay virtually beyond the fish stocking capabilities of the Fish and Game Commission.

Technique used to condition fish to be planted. Individual on left is using a dairy thermometer to check water temperature. Milk cans were used extensively to transport fish. Note the two stream improvement structures on the right side. The CCC installed many of these structures.

Payette National Forst, Idaho.

Fish rearing ponds near McCall, Idaho. Note screens around ponds to discourage predation on the fish, and milk cans in the back of Forest Service truck.

Sawtooth National Forest, Idaho.

Milk cans of fingerling trout held in the creek with mosquito netting over the tops. They were held over night like this before being released.

Sawtooth National Forest, Idaho, 1926. Planting fish in high mountain lake.

In 1901, one plant of 30,000 fry was made in Mill Creek at the insistence of a Grand County representative. Although the stocking program was plied vigorously elsewhere in the state, there is no evidence of more fish being stocked on the LaSal Forest until 1911 when a total of 75,000 fry were planted in LaSal Mountain streams. At Moab, a Rod and Gun Club (its name was later changed to the Fish and Game Association) helped officials haul fish onto the mountain as well as lobbied to get more fish assigned to the LaSal.

As far back as 1917 (the earliest annual wildlife reports that were preserved), Forest officers were concerned about the need to increase elk and deer populations on several Forests. On the Payette National Forest, for example, they reported decreasing numbers in places and recommended closed seasons and establishment of game preserves. Even when deer were increasing, they felt that many more could be produced. The following quote from the Supervisor's annual report of 1922 reflects typical thinking:

Perhaps the best way to protect the game and aid in their increase would be the establishment of a game preserve. We believe that the portion of this Forest and the Thunder Mountain area between the fourth standard parallel on the south and the Salmon River on the north, and between the middle and South Forks of the Salmon River, is admirably adapted to a game preserve. . . from what information we have concerning game preserves. . . particularly in the vicinity of the Yellowstone Park, the number of game, the opinion of game cranks notwithstanding, will ultimately have to be reduced to a point where the winter range will support them. Such a state of affairs would never occur in the proposed reserve, since there is ample, if not more than sufficient, winter range to support all of the game that can find summer range in the vicinity. This would be true if all the slopes into the Middle Fork on the Salmon and Challis Forests and all of the slopes into the main Salmon River on the Salmon and Nezperce were included in the preserve.

The establishment of preserves was considered to be an important game management tool in the first two decades of the Forest Service. Records show no mention of habitat improvement, but much emphasis on protection of wildlife, replanting and restocking native and exotic species, and enforcement of game laws.

Deer and elk numbers made encouraging rebounds in the 1920's and 30's. Law enforcement, complete protection or restrictive limits allowed herds to grow. Early census counts indicate this upward trend, but it should be remembered that early inventory techniques were far from accurate. Some Federal and State officers were well-trained; others were not. Many counts were mere guesses

Sawtooth National Forest, Idaho, 1926. Equalizing water temperature before planting fish.

with no significant data to support them. Nonetheless, it was obvious that big-game herds were indeed increasing.

The following chart shows population estimates for deer from 1921 to 1930 on several Forests of the Intermountain Region:

Forest	Deer Census		
	1921	1925	1930
Ashley	1,350	1,450	1,940
Cache	910	456	1,900
Dixie	1,750	2,500	13,000
Fishlake	3,735	6,375	20,700
LaSal	275	725	1,225
Manti	1,150	2,500	8,800
Minidoka	60	100	120
Powell	1,600	2,200	2,800
Uinta	1,750	1,515	2,075
Wasatch	650	600	2,189
Total	13,230	18,421	54,749

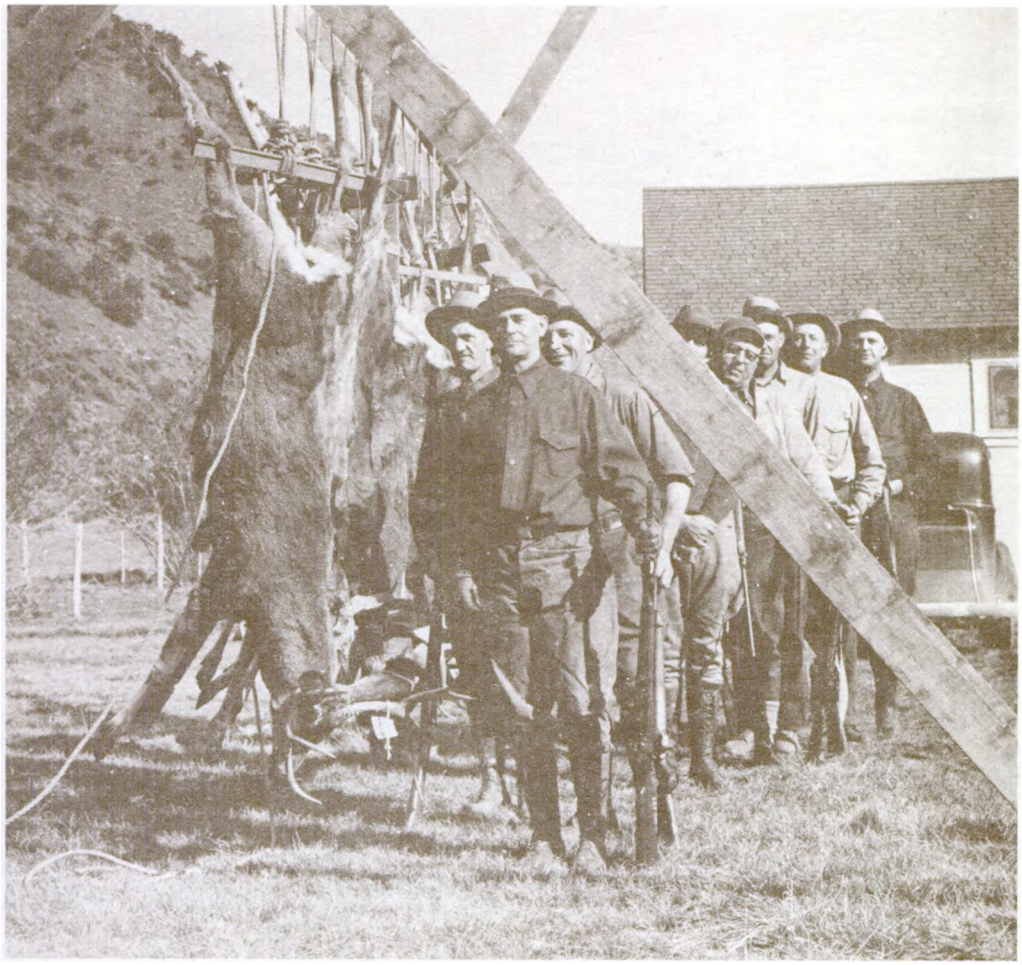
Another scene reminiscent of the "Good Old Days." The photo is of trout taken at Bull Trout Lake, Payette National Forest, Idaho.

During the 1930's, the country was hit by the Great Depression. Jobs were scarce. At the same time, western Forests and rangelands were showing declines in habitat productivity from impacts of millions of sheep and cattle which had used the lands almost unregulated. The U.S. Government established the Civilian Conservation Corps (CCC) to provide jobs and conservation work across the nation. CCC crews worked on thousands of acres of big game habitat and hundreds of miles of streams within the Intermountain Region. They constructed thousands of stream improvement structures on National Forest streams to help create more favorable fisheries pool-riffle habitat and to arrest the decline of eroding streambanks and watersheds from overgrazing impacts. Many a trout fishery was saved from extinction by this aquatic work of the CCC. High mountain lakes, in some areas devoid of a fisheries or experiencing a periodic winter kill, were renovated for a permanent fisheries use by CCC work. Using hand and horse labor, CCC crews reinforced or built up outlet bank areas of some lakes so their depth and volume would be increased for fisheries productivity. They helped in many other wildlife and fisheries projects. The Forest Service, working with fish and wildlife biologists of the U.S. Department of the Interior's Bureau of Biological Survey, developed fish and wildlife improvement handbooks to guide habitat construction crews. The stream improvement structures used in the Intermountain Region were included in the Forest Service's stream improvement handbooks published and updated from 1934 to 1942.

Deer populations continued to climb through the decades, and big game seasons were adjusted accordingly.

Elk suffered severe losses in the period of early settlement for the same reasons as deer. Destruction of habitat by overgrazing, occupation of former habitat by new farms, and overhunting all contributed to the extirpation of elk from most of the Region's Forests.

Unlike deer, elk were entirely eradicated from many of their native ranges. Their gregarious nature, as well as winter



Nevada National Forest, 1936.

Eight bucks and eight happy hunters. The 1936 deer harvest from National Forest lands in the Intermountain Region was 18,660 while in 1979 it was 82,123.

1938, Salmon National Forest, Idaho.

CCC boys transplanting beaver in Big Deer Creek. (The CCC was very involved in various wildlife habitat improvement projects, including trapping and transplanting. Many of these projects involved stream improvement structures most of which are still in place today.

and migration habits, led to wholesale slaughter. Even the vast herds in northwest Wyoming were reduced to low levels.

Through restoration efforts of the State game agencies and Forest Service, elk have been reintroduced to most of their former ranges. Every state in the Region — Idaho, Utah, Wyoming, and Nevada — was involved in cooperative transplant agreements.

In order to cope with the burgeoning big-game management programs, some western States established special big-game management committees. In Utah, for example, the legislature established a Board of Elk Control in 1927. Its members included representatives of sportsmen, wool growers, cattlemen, the Forest Service, the State Park Commission, and the commissioners of the County in which a particular game refuge was situated. The State Fish and Game Commissioner was chairman. The duties of the Board were to supervise the establishing, adjusting, opening, and closing of elk refuges; designating seasons and localities in which elk hunting could be done, and determining the sex and the number of animals that could be killed.

In 1933, six years after the Board was established, its name was changed to the Board of Big Game Control, and its powers were extended to all big-game. The new committee was made up of five members who represented cattlemen, wool growers, sportsmen, the Forest Service, and the Utah Fish and Game Department, whose director was chairman of the Board.

Antelope, bighorn sheep, moose, and mountain goats echo the same chronology as deer and elk. Without exception, their numbers declined to serious lows in the early 1900's, but restoration and habitat improvement projects by the Forest Service and State game agencies reinstated these species in much of their natural range.

Stream habitat improvement work on National Forests in Utah was highlighted in 1934 when 1,049 structures were constructed on 40.2 miles of mountain streams. The work was completed by eight CCC camps in Utah, not only to improve fishing conditions, but to prevent erosion and benefit the farmers' streamside lands.

The Forest Service and Bureau of Fisheries cooperated in supervision of this project, as well as similar efforts in eight other western States in 1934. Many of these structures are still operational today.

Waterfowl and upland game such as sage grouse and blue grouse increased and declined in accordance with the alteration of the habitat upon which they depended.

Fishlake National Forest, Utah, 1938.

A big buck is weighed at a Beaver, Utah check station while hunter and checker anxiously await read-out on scales.

These species, as well as non-game species, were favored by game enforcement laws and habitat improvement and protection.

Since the inception of the Forest Service in 1905, there have been profound changes in public attitudes toward wildlife and habitat. Early settlers viewed wildlife according to its tangible benefits. Animals that could be consumed were desirable; those that killed stock and other wildlife were not. Hawks, eagles, coyotes, bears, wolves, and other predators were destroyed simply because of their so-called objectionable conduct.

Habitat was not regarded as an important factor in the well-being of wildlife. Laymen could not understand juxtapositional requirements; that every species depends on certain types of forage and shelter for survival. Forest and range land was looked upon as an entity which supported wildlife — if wildlife was depleted, habitat loss was seldom the suspected culprit. Instead, predators and overhunting were blamed.

As the decades passed, wildlife managers realized that carrying capacity of the habitat could be increased by various vegetative improvement measures. By the late 1940's, wildlife habitat development was a fully respected element in wildlife programs. Funding was often inadequate because of World War II, but Forest Service officers made efforts to incorporate wildlife programs into the planning system whenever possible. Many projects funded for range improvement were beneficial to certain wildlife. Adjustment in livestock numbers and improved management programs were beginning to benefit the overall conditions of many ranges. Such improvements as water developments and rangeland improvements had long-term impacts on wildlife populations.

In his 1948 Report, the Chief of the Forest Service said:

The Forest Service had expected to step up its wildlife development and improvement work in the National Forests to the prewar level. Congress, however, did not appropriate the $162,813 requested for this work for the fiscal year 1948. In commenting on this elimination of specific funds for wildlife management, the House Subcommittee on Agricultural Appropriations said: "It is not the purpose of the committee to eliminate the functions relating to wildlife resources. It believes, however, that the function can be cared for out of other general items."

Elimination of the funds did not eliminate the problems. A special effort was made to maintain a skeleton organization of at least one man in each of the Regional

Cache National Forest, Utah, 1926.

Transplanting elk on the South Fork of the Ogden River.

Ashley National Forest, Utah, 1908. Skins of predatory animals taken during November and December.

offices, except Alaska, to keep abreast of the major difficulties and to maintain the cooperative enterprises that are carried on with the various State fish and game or conservation departments.

On March 27, 1943, a memo from Intermountain Regional Forester C. N. Woods indicates his interest in upgrading wildlife management activities in the Region. It said in part:

From now on I want each Forest Supervisor and each Ranger to consider wildlife management as large a part of his responsibility as he now considers timber and fire and grazing. I want no more big-game problem areas to develop before we are conscious of them. In short, I want to see Wildlife Management attended to as forcefully as I think we are now attending to Range Management.

That memo had long-range undertones. It set the stage for a dynamic wildlife program that was to become more and more visible in the near future.

It is also interesting to note the similarities of this statement to the earlier direction contained in the 1919 Manual of Fish and Game Management of the Intermountain Region.

HISTORY FROM 1950 TO 1980

A TIME FOR LEARNING

Wildlife habitat on National Forests of the Intermountain Region was greatly improved by 1950, but much remained to be done. Improved livestock management was reducing rangeland abuses. Wildlife populations, especially big-game, were increasing rapidly. Mule deer and elk would soon reach high numbers never before seen in this century.

As the years passed, research projects illuminated the great mysteries of wildlife and its dependence on the land and water in which it lived. The recognition of habitat and habitat management as a vital ingredient in wildlife management was rapidly increasing. The destiny of wildlife could be controlled by manipulating its habitat. People began showing respect for the land and its new-found carrying capacity. The Forest Service studied habitats essential to various species, and incorporated their vital requirements into a habitat program and working plans.

This period saw a penetrating quest by the Forest Service to learn about wildlife habitats and how they related to the creatures of the forest. Habitat study plots were established throughout the Region, especially in big-game winter areas.

On the Payette National Forest in 1954 a Forestwide project was started for 3-step clusters and utilization transects on big-game winter range problem areas. Most of the study areas were in the Idaho Primitive Area and on the South Fork. Wildlife data connected with Range Allotment Analysis was recorded on lands involved in livestock grazing allotments.

One primary habitat objective on National Forests was to determine use patterns of both wildlife and livestock and to determine how compatible they were. It became apparent that if there was competition for the available forage, it was essential to educate the public about the requirements of each type of animal that used the ranges.

Terrestrial wildlife biologists were concerned with the conditions of big-game winter ranges. The use of these habitats is often the factor that determines the health and welfare of deer and elk herds.

During the late 1940's and throughout the 1950's, virtually every Forest in the Intermountain Region was engaged in wildlife-livestock forage studies in cooperation with Forest and Range Experiment Stations, universities, State fish and game departments, and the Fish and Wildlife Service. Habitat management needed strong direction — it was only through scientific studies that projects could be programmed and justified.

Winter range rehabilitation, a favorite improvement project during the fifties and sixties, is still being applied.

Rehabilitation projects enhanced the growth of favored big-game browse species. Some examples are sagebrush control programs to stimulate growth of bitterbrush, a favorite browse plant for wintering deer; reseeding projects which were accomplished to establish wildlife forage; and pinyon-juniper cabling projects designed to eliminate undesirable vegetation in order to accelerate growth of favored species. Most Forests have been involved in programs such as these.

Browse studies were initiated on winter ranges to determine the condition of the habitat and its ability to sustain current wildlife populations. These studies, coordinated with State wildlife agencies, are used in determining harvests. The typical browse study involves tagging sagebrush, bitterbrush, mountain mahogany or other species and measuring the amount of forage consumed from the study plants during the winter season. By incorporating this data into formulas, it is possible to ascertain the degree of use for selected winter range areas.

Big game exclosures are popular means of determining wildlife and livestock use. By fencing off a portion of rangeland, it is possible to make comparisons between the exclosures and nearby control areas. Typical exclosures were constructed to exclude livestock only from one site and all other ungulates from another. The livestock exclosure has a fence which cannot be negotiated by sheep or cattle, but access is possible for deer and elk. The total exclosures are surrounded with a fence high enough to exclude all big-game species and livestock. Contrasts are interesting, particularly after the exclosures have been in place for a length of time. Studies such as these have contributed valuable data to Forest Service biologists and are often an important factor in determining action for habitat improvement plans.

By evaluating studies, Forest Service biologists have the knowledge and justification to improve habitats for certain wildlife. This is the key to sound habitat management. In Utah, the Board of Big Game Control is charged with setting harvest regulations for all big game.

Late in 1969, Congress passed the National Environmental Policy Act (NEPA) to ensure that activities of man be kept in harmony with the natural environment. The Act called upon the President to set up a Council on Environmental Quality and directed Federal agencies to make advance reports — including Enivronmental Impact Statements as appropriate — for planned major actions. This requirement proved to have an unprecedented effect on planning and implementing public land management decisions.

The Act has had profound implications on wildlife habitat management, since any adverse impacts have to be clearly defined and mitigated accordingly.

The Endangered Species Act (enacted in 1973 and amended in 1978) gave new protection to wildlife and plant species that were thought to warrant special protection.

In a pamphlet on threatened and endangered species, prepared by the Intermountain Region in 1980, Vern Hamre, who was Regional Forester at the time, said in his introductory remarks:

The Forest Service is charged with management of the habitats of these species in a manner that will not place them in further jeopardy. Protection and improvement of these important habitats are high priority in the overall management programs on National Forest lands in the Intermountain Region. Activities on State and private lands may also affect the habitats of these classified species, and coordination among all landowners and administrators is important for the protection and recovery of these animals and plants.

The pamphlet lists 15 plant and animal species as threatened or endangered in the Intermountain Region. They are: bald eagle, American peregrine falcon, whooping crane, black-footed ferret, gray wolf, grizzly bear, Utah prairie dog, Colorado squawfish, humpback chub, Kendall Warm Springs dace, Lahontan cutthroat trout, Paiute cutthroat trout, woundfin minnow, Clay phacelia, and Rydberg milkvetch.

In 1974, the Forest and Rangeland Renewable Resources Planning Act, also known as Resources Planning Act (RPA), became the guiding light for habitat management. Intended to ensure adequate provisions and funding to meet immediate and future Forest research needs, the Act greatly stimulated Forest Service planning activity and brought considerable encouragement to all users of the Forests.

To meet the direction defined in the RPA process, a Regionwide "Wildlife Action Plan" has been established to develop a Regional wildlife program. The Plan provides the framework for accomplishing specific objectives needed to bring wildlife into proper perspective within the total multiple use management process.

The Region's wildlife program emphasizes establishment of an inventory information base for wildlife species classified as threatened and endangered. Planning and accomplishment of habitat improvement projects also have been given high priority. Regional emphasis was placed on direct habitat improvement outlined in the State comprehensive plans, increased utilization of Knutson-Vandenberg funds to accomplish habitat improvement, and development of Forest threatened and endangered plant and animal management plans.

State comprehensive plans are a vital ingredient to intelligent wildlife management and habitat planning within the Forest Service. The plans, which cover a period of several years, are written to optimize the productivity of fish and wildlife habitats and diversity of fish and wildlife species — and to do so in a manner compatible with other resource uses on National Forests.

The comprehensive five-year management plan required of all Forests in the Region is a dynamic document that clearly establishes goals and objectives. Standard goals are to:

- Provide optimum numbers of fish and wildlife on National Forest lands through improving the ecological diversity of the present Forest and range environment.
- Intensify fish and wildlife habitat management on all National Forests of the Region.
- Improve fish and wildlife habitat through coordination with all resource programs and direct habitat improvement.
- Maintain or increase the recreational potential and related economic benefits.
- Place special emphasis on the management of habitats for endangered or threatened wildlife species in accordance with the Endangered Species Act.

The Forest and Rangeland Renewable Resources Planning Act requires the Secretary of Agriculture to assess all lands and prepare a long-range program. This Act has obvious important implications in wildlife habitat management, in that it provides for a broad look at resources and the best means of coordinating them with other uses.

In 1976, the National Forest Management Act became law. The major points emphasized in the Act are land management planning, timber management actions, and public participation in Forest Service decisionmaking. It reaches beyond the 187 million acres of the National Forest System to recognize the importance of scientific research and cooperation with State and Local governments and private landowners. So, in effect, it addresses all three major areas of Forest Service operations: the management of the National Forest System, natural resources research and cooperative forestry assistance to State and private landowners. It is, in fact, a National Forest management act.

Congress gave the Forest Service additional policy direction and endorsement — not rebuke. Evidence of this is seen in approval of multiple use and sustained yield, as well as in refinement of the Forest and Rangeland Renewable Resources Planning Act. Although most legislators recognized a need for extension and improvement of Forest Service work, they generally approved of the agency's land management planning, forest protection, and public participation. Much of the new direction builds on what the Forest Service is already doing.

After 75 years of managing National Forests, the Forest Service in the Intermountain Region has advanced from an era of predator control and enforcement of game laws to one of sophisticated habitat management in the highest professional sense. Long-range planning currently underway ensures that fish and wildlife in the National Forests will be equally considered with other uses of the Forest. Habitat management is the means to maintain and safeguard our cherished wildlife species.

Numerous habitat programs now underway will improve fisheries and nongame habitats. An outstanding example is the Idaho Anadromous Fishery Habitat Program that will be accomplished in three phases. The goals of the program are to assure that Idaho National Forests manage their anadromous fish resources in a positive manner that supports, to the extent possible, the efforts of other agencies interested in this unique resource.

The program provides for a substantial increase in habitat management; improves organization and financing; and increases planning, coordination, and interagency cooperation in anadromous fish habitat management.

HOW FIRE HELPS WILDLIFE

Prescribed fire is among the numerous tools available to improve habitat. It's current use, which reflects new attitudes toward burning, plays a major role in reaching management goals.

The importance of the fuels management policy in wildlife management habitat improvement is demonstrated by the following account of a recent incident in the Intermountain Region:

About 2 p.m. on July 18, 1978, a lightning bolt flashed from a heavy cloud and struck a dead ponderosa pine on the Ashley National Forest in Utah. The violent explosion shattered much of the limby tree, and it was quickly engulfed in flame.

Less than an hour later, Forest Service personnel drove to the scene. The fire, which was burning in the Bear Mountain Fire Management Area, was still small and could easily have been contained. But instead it was allowed to burn. Fire officials decided to take no action but to watch it closely.

The next morning, the District Ranger asked the Ashley Forest Fire Evaluation Committee to review the situation. Shortly, several fire experts and a wildlife biologist examined the fire and weighed the merits of allowing it to burn. Their inspection revealed that the blaze was enhancing wildlife habitat without destroying a stand of ponderosa pines. From the wildlife biologist's point of view, the fire was a definite plus, and the committee concurred the burn was acceptable.

Later, after the fire had consumed considerable acreage and threatened valuable big-game winter range, a decision was made to put it out. Five people with shovels simply knocked down the hot spots and scuffed the edges back into the burn.

While the fire itself was essentially nondescript and typical, it represented a milestone in the Intermountain Region. This was the first burn of any consequence to have come under the jurisdiction of the new Fire Management Policy that was being integrated into the agency's fire system.

The Bear Mountain Fire was a beginning, and a new philosophy would change the course of fire efforts on the Ashley Forest. Of course, fire that burned outside of approved fire management areas would be treated differently, but this was a start.

A brief review of the history of fire control on National Forests provides valuable insight. Since 1935, Forest Service policy stated: "Fire suppression will be fast, energetic, thorough, and conducted with a high degree of regard for personal safety. When first attack fails, organize and activate sufficient strength to control every fire within the first work period. If the fire is not controlled in the first work period, the attack each succeeding day will be planned and executed to obtain control before 10 o'clock the next morning."

This policy required that every fire be quickly controlled, regardless of burning conditions or natural resource management objectives.

In 1977, Forest Service Chief John McGuire met with the Regional Foresters to review the National Forest fire policy. They revised the policy to allow variable fire suppression standards based on land management objectives and the values at risk in a given area.

The revised policy, which became effective in February 1978 states: "The basic fire-management policy on

National Forest System lands is to provide well-planned and executed fire-protection and fire-use programs that are cost-effective and responsive to land and resource management goals and objectives, and supportive of the 1974 Forest and Rangeland Renewable Resources Planning Act resource outputs."

Wildlife biologists throughout the Forest Service welcomed this new policy wholeheartedly. The history of fire management in the agency had not been oriented to wildlife management. Any benefits from fires were largely coincidental.

In order to put the program to work, the Forest Service came up with a number of key points. Here are some of them:

The revised policy does not allow for a weakened fire-protection posture. The Forest Service will continue to take immediate action to control wildfires.

Through the policy revision, the Chief has replaced the very rigid direction, known as the 10 a.m. Control Policy. If a fire escapes initial attack, an escaped-fire situation analysis will include cost-effective fire-suppression alternatives and will serve as the basis for deciding which alternatives to use.

The revised policy encourages land managers to make more use of prescription fire to protect, maintain, and enhance the natural resource values and aesthetics within approved areas on the National Forest.

The revised policy requires that fire-management planning be totally integrated into the Forest Service land-management planning process. As an interim step, "fire management areas" will be established to provide for an orderly transition from the former fixed protection objectives to interim fire-management objectives.

The idea that some fires are good goes against our natural instincts. When a landscape is actually burning, we tend to see fire as a permanent destructive force. Foresters and wildlife managers are aware of the assets after an area burns, but the casual observer has no such insight.

Many more bird and animal species are favored in the post-fire environment than in a "climax" forest, which exhibits a tight canopy with little underbrush. Fires often enhance the production and growth of plants that are beneficial for wildlife. For example, the disastrous fires of 1910 burned an incredibly vast area in Idaho and Montana. As a result of the burns, many shrubs appeared from the blackened forest floor. One species, redstemmed ceanothus, thrived especially well and blanketed thousands of acres with tons of outstanding elk forage. Elk responded favorably to the new feed, and the herds increased to high levels. But as time passed, much of the area grew back in with other forms of vegetation, and the wildlife forage began to decline. As the habitat changed, the types of wildlife changed.

It's also true that any habitat-manipulation program that creates an early-succession forest community favors a wider variety of wildlife than a climax forest does. Biologists know that "mosaic" vegetative patterns that include a mix of species are much more beneficial to wildlife than even-aged "pure" forests having few ingredients to offer for food and protection. Animals such as deer, ruffed grouse, and turkeys are favored by fire because it produces the "edge" effect so necessary for survival. Species like martens, wolverines, wolves, and lynx need a varied habitat for their needs as well. Burned areas have much to offer various rodents and other creatures that are the prey base for predators.

The Forest Service's new fire philosophy is a major influence, whether applied to Wilderness, fire management areas, prescribed fire situations, or routine burns. It presents new challenges for wildlife biologists, giving them greater latitude in habitat programs and offering exciting possibilities.

The recent "Year of the Big Fires" was 1979, when four major fires occurred in the Idaho and Nevada portions of the Intermountain Region. They were the Gallagher Peak Fire, 37,230 acres on the Targhee National Forest; Ship Island Fire, 10,486 acres on the Salmon National Forest; the Mortar Creek Fire, 65,300 acres on the Boise and Challis National Forests; and the Shanty Town Fire, 8,230 acres on the Humboldt National Forest. During that year, a total of 140,205 acres burned in the Region. Much of the area in the Mortar Creek and Ship Island Fires is now within the River of No Return Wilderness Area.

How did fire affect these large areas that provide valuable habitat for bighorn sheep, deer, elk, and other species? Preliminary reconnaissance in late 1979 and again in 1980 indicates the fires benefited wildlife. Continuing studies will determine the extent of these benefits.

THE CHANGING SCENES

During the 30-year period from 1950 to 1980, changes occurred in landscape as well as in wildlife and fish populations. Some of the changing scene is related to timber management activities, including clearcutting. Roads were expanded to keep pace with increased timber harvest and other silvicultural treatment. They opened areas of National Forests previously accessible only by foot or horseback. Feelings of nostalgia for "The Good Old Days" are often aroused by photographs of successful

hunters on the Kaibab National Forest in 1931 and the Humboldt National Forest in 1936. But this myth is contradicted by harvest records. The high populations of deer and elk in the 1950's and 1960's actually produced the best of times for hunters.

At the start of this era, State game and fish departments and the Forest Service pooled funds to build access roads for controlling the increased deer and elk populations. Now wildlife biologists are concerned about possible additional roads and their impacts on terrestrial wildlife. Also, sedimentation from roads is impacting the fisheries resource.

Downriver dams on the Columbia River System have created problems such as turbine mortality, nitrogen saturation, and blocked passage above and below the dams. These problems, plus the increased commercial fishing takes, have added to the decline of the anadromous fishery resource. The year 1980 marks a record all-time low in salmon populations.

Throughout the 30-year time period, an overall increase of habitat inventory, analysis, and planning has made the Region more hospitable to big-game species. The Forest Service has gained more knowledge about seasonal use of ranges and overall management programs through cooperative efforts with the Bureau of Land Management and State game and fish departments.

Only within the past 10 years has nongame wildlife gained significant attention of the general public as well as professionally trained people. The Endangered Species Act of 1973 generated much interest and conflict over the role of these creatures in a world that is witnessing rapidly rising human populations.

Accelerated financing the past 3 or 4 years has led to an all-time high of habitat improvement programs and improved staffing of habitat biologists.

The Intermountain Region has long been recognized as having substantive and valuable mineral and energy resources. Construction of one of the world's largest gold mines was recently begun on the Humboldt National Forest. Major coal mining activities in Utah, open-pit phosphate mines in Idaho, and oil and gas activities in the Overthrust Belt are rapidly gaining much attention. A proposed molybdenum mine on the Challis National Forest, gold dredging and placer mining operations in Idaho and a proposal to reopen the Blackbird Mine on the Salmon National Forest will all have impacts of some degree.

1980 — WE'VE COME A LONG WAY

We have looked closely at wildlife during our journey through the early days of the American West to the present time. Although the stars have become our new frontiers, the wild creatures among forests and streams of the Intermountain Region are still a focal point of interest.

Nongame fish and wildlife species in the Region's 31 million acres of habitat are greater in numbers today, in many instances, than when the Forest Service was established. Most native wildlife species have been kept intact for our generation to view and respect. They have benefited from progressive achievements in scientific management programs developed by the States and the Forest Service. Teamwork among all resource specialists ensures recognition of fish and wildlife in multiple use management of National Forests.

COOPERATIVE EFFORTS

The Forest Service is not alone in its efforts to make a better world for wildlife. State wildlife agencies and Federal agencies, such as the Bureau of Land Management, the National Marine Fisheries Service, and the Fish and Wildlife Service, are cooperating to ensure that fish and wildlife programs are developed on National Forests in the Intermountain Region. The importance of maintaining a place for the wild creatures that live on private land beyond National Forest boundaries is recognized in cooperative State forestry programs.

Working in cooperation with each State wildlife agency in the Intermountain Region, the Forest Service has developed State-wide comprehensive management plans. These plans, required by Congress, guide a 5-year period of rehabilitation programs for all fish and wildlife species and habitat on National Forests within each State.

The Intergovernmental Personnel Act of 1971 provided for temporary exchange of personnel among agencies to ensure full partnership and coordination in developing fish and wildlife programs. For the years 1979 and 1980, representatives from the State wildlife agencies of Wyoming, Nevada, Idaho, and Utah occupied staff positions on the Bridger-Teton, Humboldt, Payette, and Uinta National Forests.

Through a cooperative interagency agreement, a Bureau of Land Management aquatic ecologist was placed on the Intermountain Region's wildlife staff to assist in identifying aquatic habitat management opportunities on Forest Service and Bureau of Land Management lands in Utah. Adjoining lands administered by the two agencies provide fish and wildlife habitat for species that seasonally occupy National Forests.

Another cooperative venture is the raptor management program in Utah, which is funded equally by the Bureau of Land Management, Forest Service, and Utah Division of Wildlife Resources. To implement the program, the State of Utah has a raptor biologist available to assist National Forests and other agencies in Utah.

Important ways of collecting management information include studies of grouse and their habitats in Utah and Idaho. These studies are jointly funded by the Intermountain Region, Utah Division of Wildlife Resources, Idaho Department of Fish and Game, Utah State University, and the University of Idaho.

Teamwork Pays Off

Although most wildlife species have been maintained on National Forests in the Intermountain Region over the past 75 years, some are no longer found in their historic habitat and others exist in reduced numbers compared to the past. For example, bison are no longer present on National Forest lands of the Region and populations of bighorn sheep and salmon are at low levels. Through cooperative State-Federal efforts, some of these species will once again occupy suitable habitats on National Forests.

Wildlife species have been transplanted to many areas of the Intermountain Region — usually into their historical habitat. During the past 4 or 5 years, bighorn sheep have been introduced into suitable habitat on the Wasatch, Targhee, Bridger-Teton, Humboldt, Uinta, and Ashley National Forests. Other successful transplants include Rocky Mountain elk on the Dixie and Toiyabe National Forests, antelope on the Dixie National Forest, mountain goat on the Wasatch and Uinta National Forests, and moose on the Manti-LaSal and Challis National Forests. Plans have been approved for introduction of additional bighorn sheep to the Uinta and Ashley National Forests. It is too early to determine the rate of increase for all transplants, but the number of known successes is encouraging. Many other opportunities for introducing animals into suitable habitat exist in the Region and these programs will continue to receive priority.

Wildlife Inventories

Inventories to determine fish and wildlife habitat relationships have been ongoing for many years. Inventory efforts were intensified with teams of wildlife biologists investigating the relationships between wild animal populations and a specific community classification scheme known as the "habitat type." This ambitious task also involves specialists in range, watershed, and soils. These teams are providing specific information for forest planners on such areas as the Cassia, Curlew National Grassland, Targhee Geothermal Area, Bridger-Teton and Caribou Overthrust Belt, and the North Slope of the Uinta Mountains. In addition, Utah State University and Weber State College have entered into cooperative agreements

to develop classifications for riparian communities and their associated wildlife.

Regional fish and wildlife information is summarized and entered into a computerized data storage and retrieval file. Forest computer specialists assisted in the development of a wildlife computer storage file known as WILD RAM (Wildlife Resources Analysis Model). This program provides Forest managers instant access to terrestrial wildlife species numbers and habitat types. Our predecessors would have enjoyed the assistance of this "wildlife wizard" in the early 1900's. Also included in the program is one developed for aquatic habitat and fisheries information. Known as GAWS, or General Aquatic Wildlife System, it displays aquatic habitat characteristics, fish species and numbers, water chemistry and instream flow elements. With this modern technology, information can be quickly assessed on the habitat condition and trend of 28,500 stream miles, 171,300 surface acres of lake and reservoir, and on the status of 126 varieties of fish known to exist in the Intermountain Region.

An aquatic ecologist in a one-of-a-kind lab in Provo, Utah analyzes macroinvertebrate samples collected from streams and lakes throughout the Intermountain Region. These studies determine the quality of aquatic habitat and the results are used in field inventories and Forest planning activities. The lab currently provides services for three other Forest Service Regions and the Bureau of Land Management in six Western states.

A HELPING HAND TO THE SEA

The importance of the anadromous fishery has been documented from the early 1800's to our present-day commercial and sport fishing harvests. About 9,700 miles of salmon and steelhead streams exist in the Region. Of this total, about 3,500 miles are of major significance to the maintenance of the Columbia River anadromous fishery resource. To adequately administer this regional resource, an anadromous fish coordinator position was established in 1979. The purpose of this position is to coordinate management and protection of the salmon resource among the Intermountain and Northern Regions of the Forest Service, and numerous State, Federal, and Provincial (Canada) agencies in the Columbia River Basin. An Anadromous Fish Action Plan was developed for the State of Idaho in 1980 to provide management direction and protection for anadromous species.

Habitat improvement projects are part of the overall program to enhance salmon habitat on National Forest lands. One such activity involves construction of screens to prevent loss of fish caused by water diversions associated with irrigation projects. These screens will permit an additional 100,000 to 200,000 young salmon to migrate downstream annually from spawning areas on the Salmon River in the Sawtooth National Recreation Area. The Forest Service, Idaho Department of Fish and Game, and the National Marine Fisheries Service are cooperators in this effort.

For every 100,000 young salmon saved in this way, biologists estimate 1,000 adults will return for spawning. (The interval between egg hatch and return for spawning is about 4 years.) Each returned adult represents a value of $150; thus, the construction of screens could represent a value of about $300,000 to the sport and commercial fishery each year.

The total economic value of the Region's anadromous and resident trout fishery has grown from a subsistence for Indians and pioneers of the early 1800's to over a million dollars in 1979, as both subsistence and recreational value.

ENDANGERED SPECIES — WE NEED THEM ALL!

Threatened and endangered plants and animals have an important place in the Region's fish and wildlife program. They are recognized in all management plans developed in the Intermountain Region. Their habitat requirements are considered in all land management activities involving timber, roads, minerals, recreation, range, and land exchanges.

The Region's Threatened and Endangered Species Program is designed to ensure that the National Forests are managed in a manner that will provide the habitat requisites for these species. The program is designed to meet the requirements of the Endangered Species Act (1973) and the National Forest Management Act (1976) and is coordinated by a Regional endangered species specialist.

There are 20 species of threatened and endangered animals and plants in the Region. When a project is proposed that may affect any of them, formal consultation is conducted with the Fish and Wildlife Service as required by law. This requirement also applies to projects on State and private land if Federal funds are involved.

Emphasis in the Threatened and Endangered Species Program for years 1979 and 1980 included:

- Transplant of the endangered Utah prairie dog into selected sites on the Dixie and Fishlake National Forests in cooperation with the Utah Division of Wildlife Resources.
- A stream survey to acquire habitat information on the threatened Lahontan cutthroat trout in Nevada. The survey is a cooperative effort of the Humboldt and Toiyabe National Forests with the Nevada Department of Wildlife.

- Delineation of important habitat for the endangered peregrine falcon by all Forests in the Region.
- Implementation of interagency guidelines for the management of the threatened grizzly bear on the Targhee and Bridger-Teton National Forests.
- Completion of several surveys to identify locations of sensitive plant species.
- A new brochure featuring the threatened and endangered species of the Region. It identifies characteristics, habitat requirements, distribution within the Region, and management implications. The brochure was made available in 1980.
- Completion of Threatened and Endangered Species Habitat Management plans on all National Forests within the Region. These were developed in cooperation with the State game and fish departments and will be of much value in preparation of the upcoming Forest management plans.

SHAPING THE FUTURE

The prognosis for wildlife is generally favorable. In National Forests of the Intermountain Region, more than 100 fish and wildlife biologists maintain a high profile, participating in exchanges of information with all resource specialists.

In addition, technology is transferred to resource specialists and National Forest users through a wide assortment of publications produced each year by the Region's Wildlife Management staff.

With the tenacity of their predecessors, and equipped with new scientific knowledge, today's wildlife managers speak convincingly about their concerns. The public and other professional land managers are listening. The belief is shared by most people that wildlife is an accurate indicator of the environment's condition.

Impressive results of the Region's expanded wildlife program show a yearly increase of funding — from nothing in the early 1900's to several million dollars in 1980. Habitat is maintained for fish and wildlife species that, in 1979, attracted 2.3 million anglers and 3.8 million hunters. During the same year, 82,000 deer and 11,300 elk were harvested from National Forest lands in the Intermountain Region.

Future generations will benefit from the WILDLIFE ACTION plan that was prepared in 1978, setting goals for managing the Region's 700 species of fish and wildlife. This document directs National Forest staff personnel to develop a program that addresses the wildlife resource needs of each Forest by 1982.

Additional cooperative efforts by the Forest Service, States and other Federal agencies — assisted by sportsmen and conservation groups — are responsible for much improved habitat. Numerous wildlife species have increased since the early 1900's.

Building on the work of early Forest Rangers, wildlife managers — in close cooperation with the states — continue to improve wildlife habitat in National Forests of the Intermountain Region. On the 75th anniversary of the Forest Service, the future holds great promise.

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APPENDIX

JURISDICTION AND LAWS RECOGNIZING WILDLIFE

JURISDICTION

Ever since the various legislatures of the Federal Government and States began enacting wildlife laws, there have been jurisdictional debates over the management and ownership of wildlife. The earliest debates occurred as soon as the settlers arrived on the east coast. Court cases clearly awarded wildlife jurisdiction to states.

Early settlers brought with them the English common law concepts, including those involving wildlife. Prior to approval of the Magna Carta in 1215, wildlife ownership was vested in the King of England, personally, for his own and his guests' pleasure. Subsequently, the King owned wild game, but in his sovereign capacity and in trust for the people. The new colonies and then the states acquired "title" in their sovereign capacities, in trust for the people.

Throughout the history of the Forest Service, wildlife has been under the jurisdiction of the States. Cooperative agreements were drawn up soon after the Forest Service was established, and each agency had a role to play in the future of wildlife. States manage the fish and game in a physical capacity, while the Forest Service manages the habitat. In keeping with this, Forest Service officials have worked with States in making recommendations for certain wildlife populations, particularly big-game animals that have impacts on habitat.

The earliest cooperative agreements dealt largely with enforcement of game laws, but the State/Federal relationship was further strengthened to include all aspects of wildlife habitat management.

Currently, Forest Service aquatic and terrestrial wildlife habitat biologists work closely with State game departments in the management of habitat improvement programs.

The public attitudes of wildlife have steadily changed over the years as well. No longer are the grizzly and wolf villains, no longer is the elk viewed exclusively as a direct competitor of cattle and a source of meat. Indeed, a great segment of the public views the elk and other wildlife species as a wonder and integral part of nature that must live on — no matter the cost. The nonconsumptive use of wild animals is catching on as our society becomes more and more urbanized.

At the same time, hunters are clamoring for game animals from a consumptive viewpoint. From a severe depletion in the 1920's and 1930's, wildlife populations have risen to levels where hunting is used as a tool to maintain herds in accordance with the habitat's carrying capacity. The Forest Service works closely with State wildlife departments in structuring hunting seasons, bag limits, and other elements such as harvest quotas of antlerless big-game.

It is evident that hunting regulations and harvests are much more conservative today than ever before. Hunters are allowed to take a surplus of the wildlife crop in order to ensure healthy wildlife populations. Since these populations are dynamic, the Forest Service continually works closely with State wildlife agencies to meet current needs.

No doubt the future will call for even more intensive wildlife habitat management programs. Wildlife continues to attract more and more followers as the years pass. Only sound habitat programs can answer the growing needs to maintain fish and wildlife in an era when habitat conflicts are increasing rapidly to meet the demands of our urbanized society.

LAWS

A review of legislation is essential to understand wildlife from the early days of the Forest Service to today.

A number of laws protected wildlife in the early days, but the first significant Federal law was the Lacey Act of 1900. The primary purpose of the Act was to prohibit interstate commerce of game that was taken or possessed in violation of the laws in the place of origin or destination. The Act was helpful in aiding States' law enforcement programs.

The Tariff Act of 1913 was the next major Federal wildlife law. It prohibited the importation of wild bird plumage into the United States, since great quantities of feathers were being sold for millinery purposes. This law had no direct importance in the Intermountain Region, but nonetheless reflected changing attitudes toward wildlife that were not long in coming to the Region.

In 1916, the United States signed a migratory bird treaty with Canada to protect a variety of fowl. This document marked an important step in the Federal Government's role in wildlife protection. Later, in 1929, the Migratory Bird Conservation Act (1929) provided for the acquisition of refuge areas for migratory birds. It created a Migratory Bird Conservation Commission that included the Secretaries of Agriculture, Commerce, and Interior, two Senators, and two Representatives.

In order to provide for the protection and management of waterfowl, the migratory bird hunting stamp, known popularly as the Duck Stamp, came into being in 1934. Stamps were required for everyone over 16 who hunted waterfowl. Funds were earmarked for refuges and enforcement of the Migratory Bird Treaty Act.

The Pittman-Robertson Act of 1937 was a major breakthrough for wildlife. It provided for an excise tax of 11 percent on sporting arms and ammunition. Funds were disbursed to the States for wildlife restoration purposes. A companion act, the Dingell-Johnson Act, was passed in 1950. It required a 10 percent excise tax on fishing tackle. Both these acts have been responsible for numerous wildlife projects on Forests of the Intermountain Region. Cooperative agreements between the Forest Service and State wildlife agencies have paved the way for important research and wildlife habitat improvement programs.

A chronology of events within the Forest Service demonstrates the changing views of the agency toward wildlife habitat. Though the events took place Service-wide, they had direct implications for the Intermountain Region.

May 15, 1862: The Department of Agriculture was established. At this time, grazing and logging were not yet in full-scale proportions. Both activities were to mold the early habitat changes on Forests in the Intermountain Region.

1881: The Division of Forestry was established within the Department of Agriculture. This was the first legislation to attempt any controls on early uses of natural resources. Congress authorized $2,000 for the employment of Franklin B. Hough, the first Chief of the new Division.

March 3, 1881: The President made authorization for Forest Reserves to be set aside from the public domain. Several reserves were established in the Intermountain Region, including the famous Kaibab wnich was part of the Region until 1932.

February 1, 1905: Forest Reserves were transferred from the Department of Interior to the Department of Agriculture. A month later, on March 3, the Bureau of Forestry was named the Forest Service.

June 11, 1906: The Forest Homestead Act authorized agricultural lands to be settled in the Forest Reserves. It allowed homesteaders to select 160 acres of agricultural land. This legislation had important repercussions on habitat for obvious reasons. Important habitats for big-game were eliminated as farming was initiated, and grazing by livestock usurped the natural ranges. The Act also allowed settlers to acquire their acreage along streams up to one and one-half miles in length, making waterways vulnerable to overgrazing and subsequent loss of riparian vegetation and soil.

March 4, 1907: The Forest Reserves were renamed National Forests. Congress forbade further enlargement of Forests in six western states except by Congressional Act.

March 1, 1911: The Weeks Law authorized the Federal Government to purchase lands in watersheds of navigable streams, and provided for matching funds with state forestry agencies. This law enabled the government to protect habitats important to most wildlife species, since watersheds along navigable rivers are diverse enough to attract a variety of fish and game species.

March 20, 1922: The Secretary of Agriculture was authorized to exchange land in National Forests for private land of equal value within National Forest boundaries. This authority enabled the Forest Service to consolidate blocks of contiguous land for more efficient management and eliminated administration problems on small, isolated tracts.

June 3, 1924: The Gila National Forest in New Mexico became the first Forest to have a Wilderness. This was an important step in the preservation of habitat values required for some species that must have isolation from humans as well as old-growth forest ecosystems.

June 7, 1924: The Clarke-McNary Act restructured the Weeks Law by lifting restrictions that authorized purchase of lands only in navigable stream watersheds. The Act allowed the agency the freedom of purchasing lands with no constraints, provided the lands in question fulfilled the requirements of regulations and policies.

June 28, 1934: The Taylor Grazing Act authorized the Secretary of Interior to establish 80 million acres of Grazing Districts in unreserved public domain. This Act paved the way for better control of grazing, especially on public domain parcels immediately adjacent to National Forests.

May 16, 1946: The General Land Office and Grazing Service were combined to create the Bureau of Land Management in the Department of the Interior. The establishment of this agency further defined land use patterns around National Forests and led to cooperative agreements between the two agencies.

June 12, 1960: The Multiple Use-Sustained Yield Act directed the Forest Service to equally consider all the resources of the Forests. This Act was to have profound effects on wildlife habitat management. The agency now had a definite policy that required more attention and funding for wildlife.

October 2, 1968: The Wild and Scenic Rivers Act provided for the protection of certain wild rivers. The Act ensured

free-flowing waters. This helps maintain habitat in its natural state for fisheries.

Other legislative actions such as the National Environmental Policy Act, the Endangered Species Act, the Forest and Rangeland Renewable Resources Planning Act, and the National Forest Management Act have been described earlier in this publication.

Currently, the Roadless Area and Review Evaluation is studying selected areas within the Forests for Wilderness designation. This study will ultimately determine habitat improvement potentials on selected land units. Areas designated as Wilderness will be left in natural states, providing solitude and forest types, but with little opportunity to improve conditions for various wildlife species.

State legislation had direct effects on wildlife in National Forests because wildlife management is under the jurisdiction of State agencies. Law enforcement and protection of game were the principal concerns in the early days.

One of the first laws enacted by the Territory of Idaho concerning big-game was in 1864. The Act made it unlawful to kill or destroy deer, antelope, buffalo, elk, mountain sheep and goats after the first day of February and before the first day of July. It also set a penalty for conviction of not less than $5 nor more than $200.

The Idaho Fish and Game Department was created by an Act of the 1899 legislature. A limit was set of not more than four each of deer, antelope, mountain sheep, and goat per year, and a season of September 1 to December 30 was established. That legislature also set the first season for catching trout — May 1 to November 1 — and made it a felony for taking fish by the use of drugs, dynamite, giant powder or other violent means.

An Act passed by the 1903 Idaho state legislature included a section dealing with seasons and related regulations, and created the first hunting and fishing licenses with fees to provide operating funds for the Department. The resident fish and game license was $1, non-resident fish and bird license was $5, and non-resident fish and game combination license was $25.

In 1908, the Idaho legislature passed a law providing for the extermination of wolves, coyotes, wildcats, and cougars.

In his 1918 report, Warden W.H. Thorpe mentioned the assistance given the Department enforcement program by the Forest Service, whose Rangers were deputized for that purpose. He also stated that 200 elk were shipped into Idaho for release into Black Lake Preserve in Adams and Idaho Counties, and Minidoka, Bannock, Elmore, and Boise Counties. His report mentioned an increase in elk in Chamberlain Basin to a total of 610 head, in addition to abundant numbers of deer.

Forest officers were appointed as Deputy State Game Wardens before 1918, but there was apparently no formal written agreement until 1923. The agreement was signed by R.E. Thomas, State Fish and Game Warden, and R.H. Rutledge, District Forester, District 4 (Intermountain Region). The following quotations were included in the agreement:

Forest officers, because of their familiarity with the areas in which a large portion of the game and fish of the State are found, can and should assist by their own personal action and attitude, in securing proper respect and enforcement of State game laws. All Forest Rangers and other Forest officers, who can. . . be of assistance in the enforcement of the State game laws, upon recommendation by the Forest Supervisor, will be appointed by the State Fish and Game Warden as Deputy State Wardens, authorized to enforce the game and fish laws.

Legislative policies in other States of the Intermountain Region were similar to Idaho's, in regard to attitudes and philosophies. In regard to attitudes and philosophies. In Utah, for example, the 1874 legislative assembly of the Territory of Utah provided for the appointment of personnel to administer the fish laws and to protect game and song birds of the territory. In 1876, the first Fish Commissioner was appointed to carry out those duties and to raise, distribute, and stock fish eggs and fry. That year seasons were set for quail, partridge, duck, elk, mountain sheep, and antelope. In 1907, the Utah legislature required all males over 14 years of age to purchase a hunting and fishing license for $1. The license fee was increased to $2 in 1909, with funds to be used for hatchery repairs and fishery experimentation.